The Journal
Michigan
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September, 1957
Volume 56
Number 9

(This number is composed of two sections, of which this is Section 1)

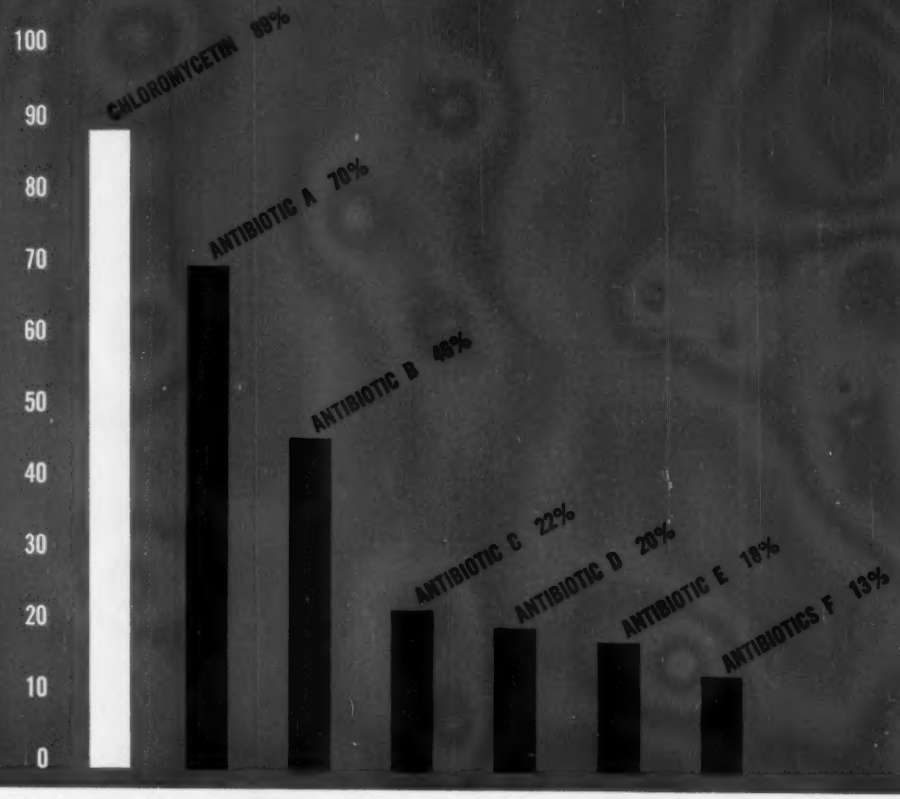
PREVENT ***traffic accidents***

RESISTANCE IS LESS OF A PROBLEM

CHLOROMYCETIN®

COMBATS MOST CLINICALLY IMPORTANT PATHOGENS

SENSITIVITY OF 100 STRAINS OF HEMOLYTIC STAPHYLOCOCCUS AUREUS TO CHLOROMYCETIN AND OTHER IMPORTANT ANTIBIOTIC AGENTS*



*This graph is adapted from Kempe, C. H.: *California Med.* 84:242, 1956. The single bar designated as "Antibiotics F" represents three widely used, chemically related agents grouped together by the investigator. Strains isolated January-June, 1954.

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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80152

A REPORT ON A PROMISING CONCEPT IN ANTIMICROBIAL THERAPY:
CONCURRENT ADMINISTRATION OF CHLOROMYCETIN AND GAMMA GLOBULIN

In treatment for infection, the physician is confronted with complex interactions between pathogen, antimicrobial agent and host. The pathogen represents the unselected factor, the therapeutic agent the component over which the physician exercises maximum control. But even with optimal antibiotic therapy, the eventual elimination of the infective agent and the resolution of pathologic changes depend upon efficient host response.[1,2]

Passive transfer of antibodies through gamma globulin provides a broad antibacterial spectrum because of origin in adults exposed to a variety of microorganisms. Employed as a protective element against some of the more common contagious diseases, gamma globulin permits more competent participation by the host in the fight against established infection.

Rationale for immuno-antibiotic therapy lies in simultaneous direct attack on the pathogen and re-enforced host resistance, which implies usefulness in treatment for acute fulminating, highly refractory, or prolonged infections.

EXPERIMENTAL STUDIES ENCOURAGING

In carefully controlled studies in mice, Fisher and his colleagues in Parke-Davis Research Laboratories, using pooled human gamma globulin and Chloromycetin (chloramphenicol, Parke-Davis) concurrently, demonstrated a high degree of therapeutic effectiveness in infected animals.[3] Five types of infection induced with species of Staphylococcus aureus, Streptococcus pyogenes, Proteus vulgaris and Pseudomonas aeruginosa responded to joint therapy with gamma globulin and Chloromycetin, each agent having shown at deliberately low doses in previous work little or no activity in these mouse infections when used separately. Fisher's experiences with hemolytic streptococci have been confirmed.[4]

Tests now in progress with pneumococci, salmonellae and additional strains of pseudomonas and proteus indicate that marked increases in survival rates may be anticipated in any infection where chloramphenicol has previously demonstrated therapeutic activity.[3] These observations suggest that immuno-antibiotic therapy can effect cures in a variety of refractory microbial diseases.

PROMISING IN EARLY CLINICAL TRIAL

Observations analogous to those of Fisher have been reported from the clinic.[5-7] More recently, the clinical use of gamma globulin in conjunction with antibiotics was undertaken by Waisbren[8] on the basis of Fisher's experimental work. His series of 46 patients with systemic and localized infections due to various strains of staphylococcus, pseudomonas, salmonella, proteus and to the pneumococcus had failed to respond to maximum effort with conventional therapeutic measures. Marked clinical improvement in six of these acutely ill patients shows clearly "...that in certain instances the addition of gamma globulin to antibiotic therapy may give a clinical result that could not have been obtained with the antibiotics used alone. In each of these cases, a long and extensive control period in which antibiotics were being vigorously administered had failed to produce a response but when gamma globulin was given with approximately the same dosages of antibiotic, rather marked improvements occurred."[8]

While the precise mechanism underlying the salutary effect of gamma globulin remains to be clarified, the existence of quantitative hypogammaglobulinemia was ruled out in patients in this series.[8]

A RATIONALE FOR IMMUNO-ANTIBIOTIC THERAPY

Although the relationship of susceptibility to infection and status of the host is well recognized, host resistance is an aspect of infectious disease still not understood in an era of extensive and of massive antibiotic therapy. Most antibiotics, in concentrations tolerated by living tissues, have bacteriostatic rather than bactericidal effect. In the clinic, bacteriostatic doses are most frequently given and host defense mechanisms are responsible for the eventually satisfactory clinical result.[4]

The problem of therapeutic failures despite vigorous courses of antibiotic therapy may be due to some disturbance in the immune process.[9] In addition, disproportionately high mortality rates in the extremes of life lend support to the impression of inadequate defense mechanisms, since these are underdeveloped and immature in the very young and may be impaired or depressed in the aged.[4]

Any discussion of immuno-antibiotic treatment must at present remain largely conjectural. From preliminary evidence, however, this approach to therapy appears worthy of consideration, especially in patients in whom adequate antibiotic therapy for active infectious processes has been disappointing. While the concept of enlisting the aid of the host in combating pathogenic microbes, thereby affording the physician control of two of the three principal interacting factors, is not new, enhancement of host resistance through use of gamma globulin in treatment for microbial disease is indeed a promising one.

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(1) Swift, P. N.: *Brit. M. J. 1*:129 (Jan. 10) 1957. (2) Jawetz, E.: The Forgotten Host, *Stanford M. Bull., 13*:84, 1955. (3) Fisher, M. W.: *Antibiotics & Chemother. 7*:315, 1957. (4) Welch, H.: The Host and the Parasite. A New Clinical Approach to Biologic Relationships, *Antibiotics & Chemother. 7*:271, 1957. (5) De, S. P., & Basu, U. P.: *Brit. M. J. 2*:564, 1938. (6) Goldberg, S. L., & Bloomenthal, E. D.: *Surgery* 9:508, 1941. (7) Carnes, H. E.; Gajewski, J. E.; Brown, P. N., & Conlin, J. H., in Welch, H., and Marti-Ibanez, F., ed.: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 391. (8) Waisbren, B. A.: *Antibiotics & Chemother. 7*:322, 1957. (9) Harris, R., Jr., & Schick, B.: *J. Mt. Sinai Hosp. 21*:148, 1954.

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Contributors to This Issue

G. J. Curry, M.D.

J. M. Dorsey, M.D.

F. B. House, M.D.

F. H. Mayfield, M.D.

S. E. Miller, M.D.

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Office of Publication
2642 University Avenue
Saint Paul 14, Minnesota

Editor
WILFRID HAUGHEY, M.D.
610 Post Bldg., Battle Creek, Michigan

Assistant Editor
L. J. BAILEY, M.D.
620 Vinewood Avenue, Birmingham, Michigan

Secretary and Business Manager of THE JOURNAL
L. FERNALD FOSTER, M.D.
441 E. Jefferson, Detroit, Michigan

Executive Director
WM. J. BURNS, LL.B.
606 Townsend Street, Lansing 15, Michigan

All communications relative to exchanges, books for review, manuscripts, should be addressed to Wilfrid Haughey, M.D., 610 Post Bldg., Battle Creek, Michigan.

All communications regarding advertising and subscription should be addressed to Wm. J. Burns, 2642 University Avenue, Saint Paul 14, Minnesota, or 606 Townsend Street, Lansing 15, Michigan. Telephone Ivanhoe 57125.

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1958 MICHIGAN CLINICAL INSTITUTE

C. E. Umphrey, M.D.

"Yesterday's Hopeless" is the theme of next year's Michigan Clinical Institute to be held in Detroit, March 19-20-21, 1958.

"Yesterday's Hopeless" points to the miracle of modern medicine: with today's medical practitioners and the use of miracle drugs, yesterday's hopeless are now returned quickly to useful, happy and healthy lives.

C. E. Umphrey, M.D., Detroit, Past President of the Michigan State Medical Society, will be General Chairman of the 1958 MCI.

The "block system" of subjects will be continued in 1958—the MCI blocks being as follows:

Surgery and Cancer: Wednesday morning, March 19

Trauma: Wednesday afternoon, March 19

Heart and Rheumatic Fever: Thursday morning, March 20

Steroids: Thursday afternoon, March 20

Obstetrics-Gynecology-Pediatrics: Friday morning, March 21

Everyday Problems of the Family Doctor: Friday afternoon, March 21

Closed circuit color television facilities again will be beamed to the Ballroom of the Sheraton-Cadillac Hotel, Detroit, during the MCI, through the co-operation of Smith, Kline and French Laboratories and the Henry Ford Hospital (1:00 to 2:30 p.m., daily). Only live patients will be demonstrated on the television program.

Every afternoon, at the close of the scientific assembly, Discussion Conferences with all speakers on the platform will be featured.

In a word, the 1958 Michigan Clinical Institute will stress clinical medicine of daily value to the medical practitioner.

MEDICARE CONTRACT EXTENDED

The Dependents of Servicemen Medical Act went into effect December 7, 1956. Michigan State Medical Society, and Michigan Medical Service as its fiscal administrator, signed a contract with the Department of Defense dated November 16, 1956. The contract originally was to run from December 7, 1956, to June 30, 1957. It was to be reviewed and revised before that date. Subsequently, due to multiplicity of agreements with various state medical societies—Blue Shield Plans—and because of lack of experience, etc., the Defense Department set up a schedule of dates for renegotiating contracts. The Michigan contract is scheduled to be renegotiated prior to March 31, 1958. The present contract, therefore, was extended under its present form to March 31, 1958, with the approval of the MSMS Executive Committee of The Council June 30, 1957. No better arrangement was possible.

This extension does not preclude the reconsideration of the "Schedule of Allowances" if inequitable. The allowances may be increased or decreased as mutually agreed by the Department of Defense and the Michigan State Medical Society.

Emergency Care Authorized under the Dependents of Servicemen Medical Act.—Acute emergency care of any nature at a *hospital* is covered. Such emergency care for an illness or condition not otherwise covered is only authorized pending arrangements for care elsewhere. However, this does not eliminate the requirement for *admission as an inpatient to a medical facility* for 18 consecutive hours or more except for shorter periods of hospitalization for surgical procedures, treatment of fractures or other bodily injuries or in instances in which death occurs in a lesser period of time. Consequently, emergency treatment is not in itself sufficient grounds for inclusion within the Dependents' Medical Care Program.

Essentially, the Dependents' Medical Care Program is an inpatient program providing for outpatient care only in the following areas:

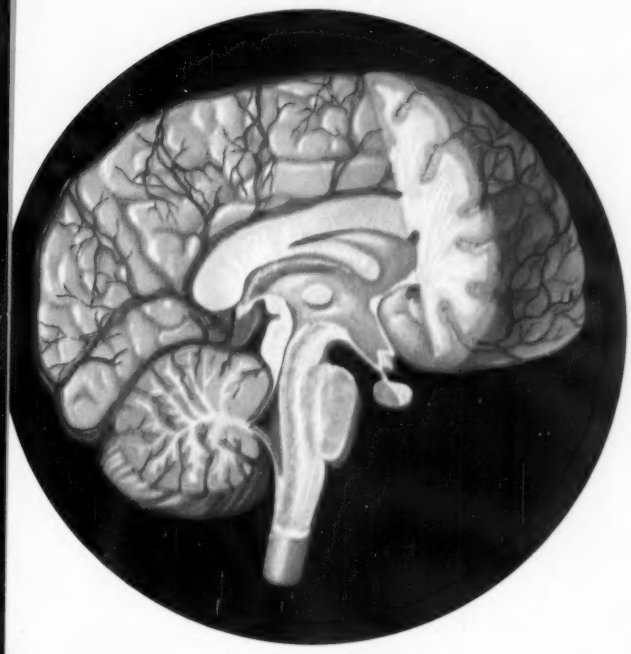
1. *Obstetrical and maternity services.*
2. *Bodily injuries,* limited to the treatment of fractures, dislocations, lacerations and other wounds.
3. *Diagnostic tests and procedures* prior to and/or following hospitalization for the same *bodily injury* or *surgical procedure* for which hospitalized.
4. *Radio therapy* prescribed during a period of hospitalization and continued or carried out on an outpatient status.

Irrespective of the existence of an emergency the above constitutes the only areas in which outpatient care can be authorized under the Medicare Program.

The foregoing emergency care, to be payable by the Government under the Medicare Program, must be either:

1. Outpatient care as stated above which is normally provided for under the Program; or
2. Care furnished to a patient who is *admitted to a hospital as an inpatient* irrespective of whether the hospital meets the definition of a "hospital" as defined in the joint directive.

(Continued on Page 1086)



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TRANQUILIZER WITH MUSCLE-RELAXANT ACTION

MEDICARE CONTRACT EXTENDED

(Continued from Page 1084)

This eliminates from coverage emergency care, not related to an obstetrical or injury case, that is performed in a doctor's office or clinic.

Government Liability in Obstetrical and Maternity Service under Medicare.—The scope of obstetrical and maternity services for which Medicare is liable is indicated in the definition of *Maternity and Infant Care* in the joint directive, which is: the provision of care "incident to pregnancy." Hence, outpatient "antepartum" care of pseudocyesis, or the outpatient administration of examinations and diagnostic procedure which lead to diagnosis that the patient is not pregnant, are not proper charges against the Government under Medicare legislation.

MEDICARE: $65 is doctor's average bill.

Medicare in seven months of operation, has billed total benefits of $566,295 in Michigan, according to a recent report by Blue Cross-Blue Shield, fiscal agents of the Program for the hospitals and the medical profession of this State.

Instituted by Congressional action to provide civilian hospital and medical-surgical care for dependents of servicemen on active duty, Medicare has helped pay the bill for more than 1,800 babies born in Michigan hospitals since the inauguration of the program (representing 55 per cent of the 3,300 hospital admissions handled under the Defense Department Program).

Runners-up to the babies were tonsil and adenoid cases with 10 per cent of admissions.

Of the total of $566,295, about $366,000 was billed in hospital benefits and $200,295 for doctors' services making the average costs per hospital case about $110.00 per case and the average physician's bill about $65.00 per case.

HIGHLIGHTS OF THE COUNCIL

Session of July 11-12, 1957

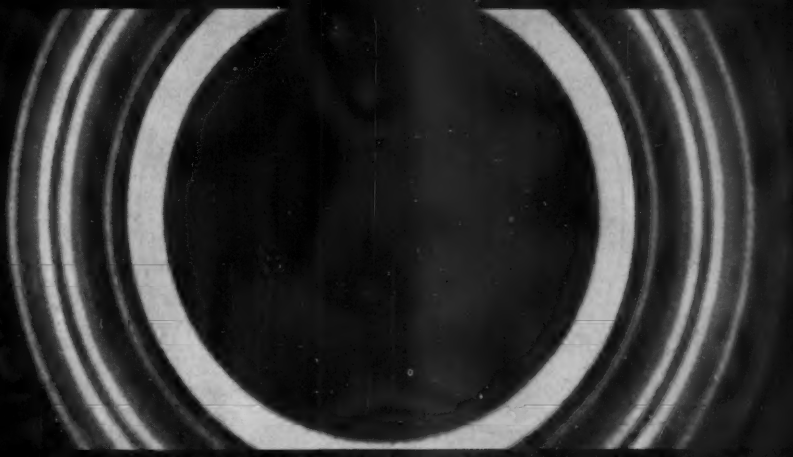
- **Decisions of great import** to the Michigan State Medical Society and its future were made by The Council at its mid-summer session of 1957. Chief among the 117 matters favorably considered by the The Council were:
  1. A recommendation of the Finance Committee that dues for the ensuing year (1958 only) be increased $50.00 for immediate erection of a new MSMS home.
  2. An agreement with the Michigan Mackinac Island State Park Commission, whereby the effects in the Beaumont Memorial on Mackinac Island are to be the personal property of the Michigan State Medical Society, to facilitate annual variety in exhibitions and room displays.
  3. Approval of "Statement of Principles Governing Physicians and Lawyers"—a joint endeavor between the Michigan State Medical Society and the State Bar of Michigan (to be published in toto in JMSMS).

Other items of importance, decided by The Council, were:

- **Semi-annual financial reports** covering the various departments of MSMS including THE JOURNAL.
- **Progress report on the MSMS Market Opinion Survey:** The distribution of the questionnaires to the public and to the medical profession has been completed. A return of 15 per cent from the public and 35 per cent from the M.D. questionnaires is anticipated, showing high interest in this survey among both the medical profession of Michigan and the public generally.
- **Medicare contract** was extended on the same terms except that individual items in the Fee Schedule may be negotiated at MSMS request.
- **Veterans Administration Home Town Medical Care Program:** report that the contract had been extended with important revisions in the form and nature of same. Authority was given a special committee on an interim basis to negotiate with VA re revisions in individual fees.
- **Group Life Insurance for MSMS Members:** Procuring information on this type of insurance for presentation to the 1957 House of Delegates was authorized.
- **Appointments:** V. George Chabut, M.D., Northville, was appointed as MSMS representative to the AMA 6th National Conference of Physicians and Schools, Highland Park, Ill., October 30. The Chairman of the Rural Medical Service Committee and the Public Relations Counsel were authorized to attend the AMA Rural Health Seminar, Purdue University, October 4-5. Louis Jaffe, M.D., Detroit, was appointed to represent MSMS on the Michigan Committee on Nursing in National Defense.
- **Certain Recommendations** of Chairman Arch Walls, M.D., of the Healing Arts Study Committee were accepted as an interim report.
- **President-elect G. W. Slagle, M.D.,** presented his MSMS Committee appointments for the year 1957-1958.
- **L. J. Bailey, M.D.,** Detroit, was elected as Assistant Editor of THE JOURNAL.
- **Governor's Study Commission on Prepaid Hospital Care Plans:** MSMS pledged co-operation with the Commission and the University of Michigan (the latter to make this study), subject to provisions as outlined in the submitted proposed prospectus "Study Objectives and Scope" of July 4, 1957.

(Continued on Page 1090)

PARKE-DAVIS ANNOUNCES A MAJOR ADVANCE IN FEMALE HORMONE THERAPY



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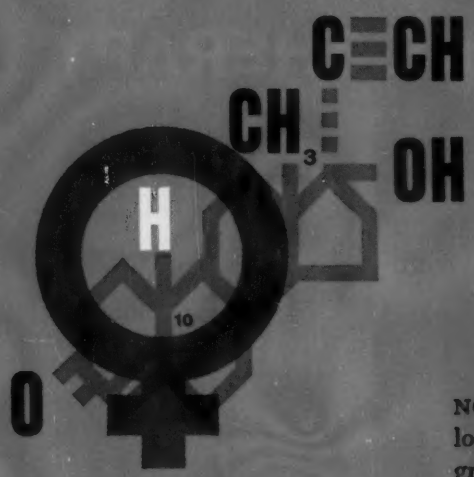

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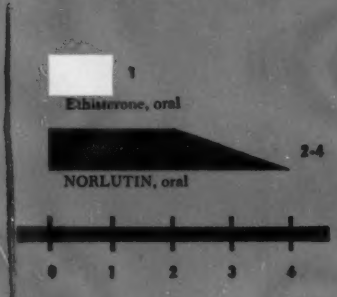
NORLUTIN is an example of "...increased biological activity of a steroid when the methyl group at carbon 10 is replaced with hydrogen."[1]

NORLUTIN

INDICATIONS FOR NORLUTIN: amenorrhea, menstrual irregularity, functional uterine bleeding, infertility, habitual abortion, threatened abortion, premenstrual tension, dysmenorrhea.

RELATIVE POTENCIES OF ETHISTERONE AND NORLUTIN IN HUMANS[2, 3]



REFERENCES: (1) Hertz, R.; Tullner, W., & Raffelt, E.: *Endocrinology* 54:228, 1954. (2) Greenblatt, R. B.: *J. Clin. Endocrinol.* 16:869, 1956. (3) Hertz, R.; Waite, J. H., & Thomas, L. B.: *Proc. Soc. Exper. Biol. & Med.* 91:418, 1956. (4) Tyler, E. T.: *J. Clin. Endocrinol.* 15:881, 1955. (5) Greenblatt, R. B., & Clark, S. L.: M. Clin. North America, Philadelphia, W. B. Saunders Co. (Mar.) 1957, p. 587.

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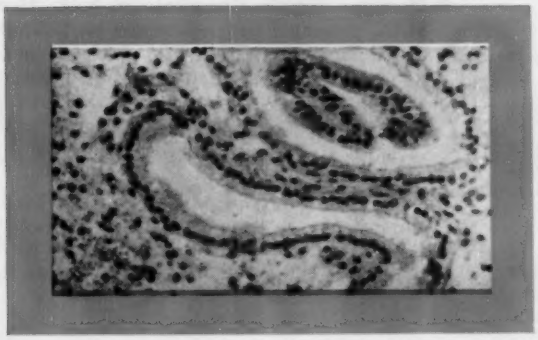
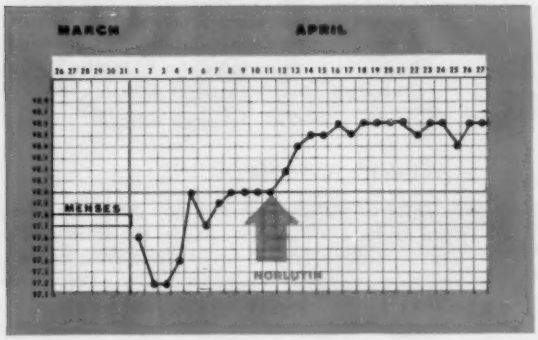
in disorders of menstruation and pregnancy



NORLUTIN: Progestational Effect on Endometrium"...10 mg. [NORLUTIN] given twice daily represents a reproducibly effective dose in women for the production of marked progestational changes in the endometrium."[3]

◀ Presecretory to secretory endometrium after 5 days treatment.



NORLUTIN: Thermogenic Effect "This preparation was found to have a marked thermogenic, and other physiologic effects in comparatively small dosage."[4]

NORLUTIN: Abolition of Arborization in Cervical Mucus NORLUTIN "...inhibits the fern leaf pattern in cervical mucus."[5]

◀ 1. Fern leaf pattern. 2. Arborization completely abolished by NORLUTIN.

NORLUTIN: Induction of Withdrawal Bleeding "As little as 50 mg. of [NORLUTIN] administered in divided doses over a five-day period was sufficient to induce withdrawal bleeding."[2]

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HIGHLIGHTS OF THE COUNCIL

(Continued from Page 1086)

- **Michigan State Board of Registration in Medicine:** The names of twenty-five nominees for the five vacancies, as of September 30, 1957, were selected for submission to the Governor pursuant to the Medical Practice Act.

- **A vote of thanks** was extended to Chairman Grover C. Penberthy, M.D., Detroit, and his Medical Advisory Committee to the Selective Service System, for outstanding work in connection with this military activity throughout the years. The Council recommended that the present committees be retained on a standby basis on both State and County levels.

- **William A. Hyland, M.D.,** Grand Rapids, was reported as having been appointed Chairman of the important AMA Committee to Study the Heller Report.

- **The Annual Report of The Council** was presented, studied in detail, and approved for reference to the House of Delegates on September 23.

- **Councilor Conferences** were authorized to be called by each Councilor for the purpose of acquainting delegates, alternate delegates, presidents and secretaries of component societies with necessary information that may be presented to the 1957 House of Delegates.

- **Committee Reports:** The following Committee Reports were presented: County Societies, Finance, and Publication Committees of The Council, meetings of July 12; Ethics Committee meeting of June 13; Committee on Study of Uniform Fee Schedule for Governmental Agencies, June 23; Geriatrics Committee, June 25; Joint Committee with the State Bar of Michigan, June 26.

- **Annual joint meetings** of the MSMS Council with (a) Michigan Hospital Association Board representatives which presented its Resolution endorsing the MSMS Market Opinion Survey; (b) Michigan Crippled Children Commission representatives; (c) Michigan Health Council. Matters of mutual interest were discussed at these three meetings.

- **Nominations for Michigan's Foremost Family Physician:** The Council nominated to the 1957 House of Delegates the names of Daniel J. O'Brien, M.D., of Lapeer; John W. Rigterink, M.D., of Grand Rapids; and Paul Van Riper, M.D., of Champion.

- **The "Big Look" Committee** requested authorization to (a) secure a site for the new MSMS building; (b) select and employ an architect; (c) have preliminary plans prepared for display to the House of Delegates and membership at the 1957 MSMS Annual Session in Grand Rapids. This was granted.

- **Michigan Health Commissioner A. E. Heustis, M.D.,** presented progress report on poliomyelitis; designation of medical research studies; standards for atomic radiation protection; rules and regulations for nursing homes; occupational disease activity; and preliminary report on multiple screening.

- **The Publication Committee** allocated JOURNAL Numbers to specific subjects for the year 1958; also recommended as a new feature in THE JOURNAL a colored insert with last minute medical socio-economic information.

- **The County Societies Committee** recommended that The Council Chairman be authorized to appoint a committee to review the problem of medical professional liability, said committee to submit recommendations re methods of action applicable to Michigan.

AFL-CIO AND MEDICINE

The AFL-CIO Committee on Social Security has taken a firm stand against the actions of medical societies who fail to go along with union labor medical programs, according to the "Summer News Letter" issued by the Association of Labor Health Administrators. This association is a group of medical directors, labor administrators and other representatives of labor health plans.

The publication calls for action in opposing the "attack and harrassment of component medical societies against union plans, particularly in the states of Pennsylvania, Illinois and Colorado." It states that at a meeting in Washington on May 15 at the "merged headquarters," the AFL-CIO Executive Committee approved funds to encourage and promote the work of the ALHA in providing "technical aid to the trade union groups in development of better health service programs for the benefit of workers and their families." The letter also stated the association "will stand ready to bring experienced technical and legal counsel on request to the defense of the victims of any efforts on the part of medical power groups to destroy the programs which endeavor to improve the quality and scope of prepaid health services available to working individuals and their families." The work will be carried out in co-operation with AFL-CIO through the department of Social Service.—*AMA Secretary's Letter.*

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Heart Beats

PREVENTION OF RHEUMATIC FEVER AND BACTERIAL ENDOCARDITIS THROUGH CONTROL OF STREPTOCOCCAL INFECTIONS

Rheumatic fever is a recurrent disease which, in most instances, can be prevented. Since both the initial and recurrent attacks of the disease are precipitated by infections with Group A streptococci, prevention of rheumatic fever and rheumatic heart disease depends upon the control of Streptococcal infections. This may be accomplished by (1) early and adequate treatment of streptococcal infections in all individuals and (2) prevention of streptococcal infections in rheumatic subjects.

Treatment of Streptococcal Infections In the General Population

Following epidemics and in certain population groups, it has been found that about 3 per cent of untreated streptococcal infections are followed by rheumatic fever. Adequate and early penicillin treatment, however, will eliminate streptococci from the throat and prevent most attacks of rheumatic fever.

Diagnosis—In some instances, streptococcal infections can be recognized by their clinical manifestations. In many patients, however, it is impossible to determine the streptococcal nature of a respiratory infection without obtaining throat cultures. The following section on diagnosis has been included in order to assist physicians in making a positive diagnosis and assuring adequate treatment.

The accurate recognition of individual streptococcal infections, their adequate treatment and the control of epidemics in the community presently offer the best means of preventing initial attacks of rheumatic fever.

Common Symptoms

Sore throat—sudden onset, pain on swallowing.
Headache—common
Fever—variable, but generally from 101° to 104° F.
Abdominal pain—common, especially in children; less common in adults.
Nausea and vomiting—common, especially in children.

This statement was prepared by the Committee on Prevention of Rheumatic Fever and Bacterial Endocarditis appointed by the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association. The committee is cognizant of the fact that no recommendations of any group can be final at this time. The present approach may not be the eventual solution of the problem of preventing rheumatic fever. Revisions and changes will be made as new knowledge may indicate.

Common Signs

Red throat.
Exudate—usually present.
Glands—swollen, tender lymph nodes at angle of jaw.
Rash—scarlatiniform.
Acute otitis media
Acute sinusitis
(frequently due to the streptococcus

In the absence of the common symptoms and signs, occurrence of any of the following symptoms is usually not associated with a streptococcal infection: simple coryza; hoarseness; cough.

Laboratory Findings.—Throat culture—hemolytic streptococci are almost invariably recovered on culture during acute streptococcal infections.

White blood count—generally over 12,000.

Treatment.—When streptococcal infection is suspected, treatment should be started immediately. Penicillin is the drug of choice. Effective blood levels should be maintained for a period of ten days to prevent rheumatic fever by eradicating the streptococci from the throat.

Penicillin may be administered by either intramuscular or oral route. Intramuscular administration is recommended as the method of choice since it ensures adequate blood levels for a sufficient length of time. Oral therapy by contrast is dependent upon the co-operation of the patient.

In the treatment of streptococcal infections in known rheumatic subjects, parenteral penicillin should be employed in at least the maximum doses recommended in the accompanying schedules.

Recommended Treatment Schedules

Intramuscular Penicillin

Benzathine Penicillin G
Children—one intramuscular injection of 600,000 to 900,000 units.
Adults—one intramuscular injection of 900,000 to 1,200,000 units,

or

Procaine Penicillin with Aluminum Monosterate in Oil
Children—one intramuscular injection of 300,000 units every third day for three doses.
Adults—one intramuscular injection 600,000 units every third day for three doses.

Oral Antibiotics

To prevent rheumatic fever by eradicating streptococci, therapy must be continued for the entire ten days

(Continued on Page 1098)


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SAFETY FIRST IN ANTI-BIOTIC THERAPY

AFTER FIVE YEARS OF EXTENSIVE USE—NOT A SINGLE REPORT OF A SERIOUS REACTION TO

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This unique safety record stands unparalleled in antibiotic therapy today. In addition, ERYTHROCIN is virtually free of side effects.

Yet, with all this freedom from toxicity, ERYTHROCIN is effective in nearly 100% of common respiratory infections. *Filmtab* ERYTHROCIN Stearate (100 and 250 mg.), bottles of 25 and 100. Adult dose is 250 mg. q.i.d.

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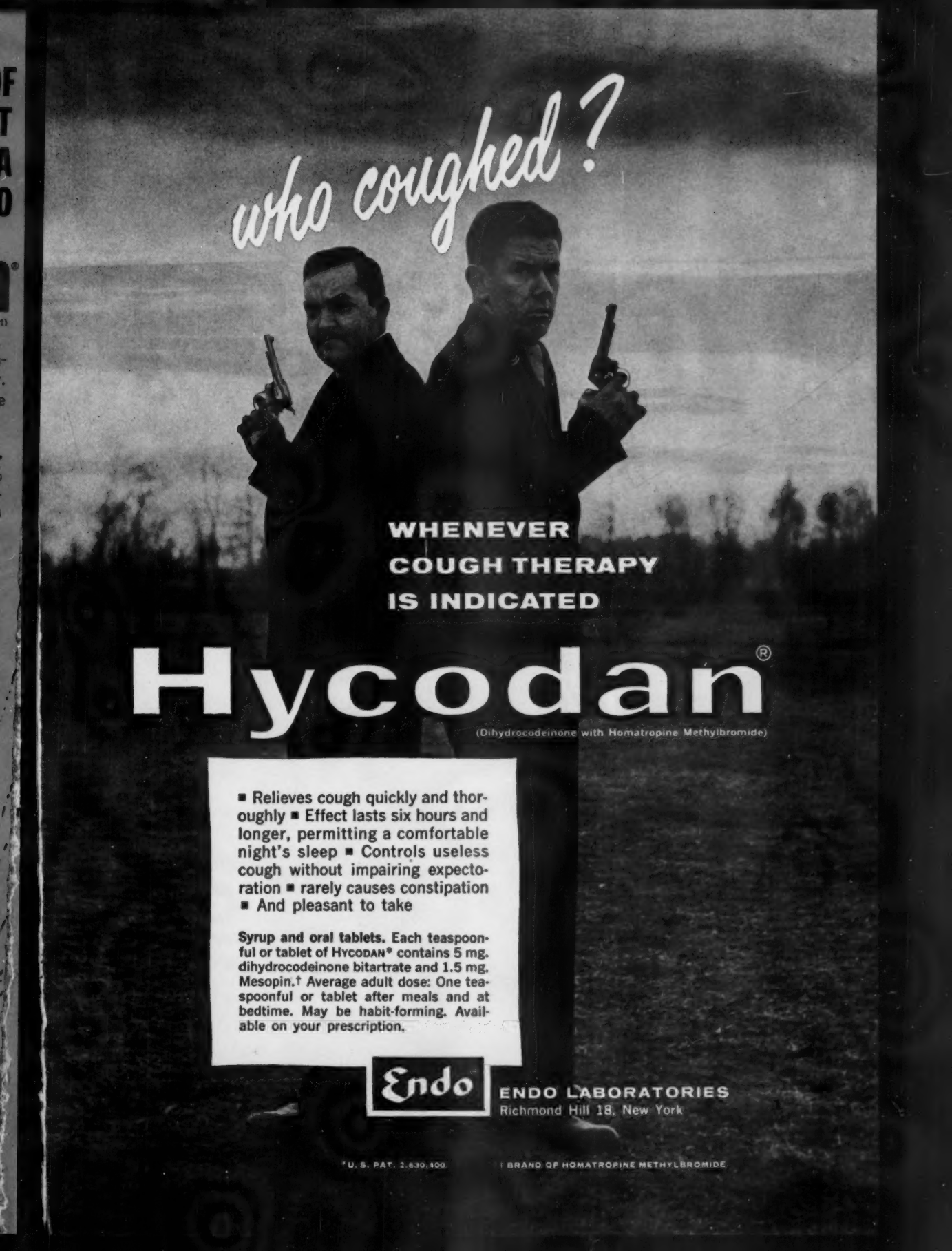
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Effective analgesic and antipyretic

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Thenfadil® HCl, 7.5 mg.
Dependable, well tolerated antihistaminic

neutralizes — ALLERGIC SENSITIZATION

Caffeine, 15 mg.

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Dose: **Adults**—2 tablets three times daily.
Children 6 to 12 years—1 tablet three times daily.

Bottles of 100 tablets

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The BARRON FOOD PUMP permits an adjustable controlled administration of liquified natural foods through a small (2.5mm) caliber plastic intubation tube at a regulated constant rate of delivery while the patient is allowed to sit up, lie down, or turn on either side as desired.

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PREVENTION OF RHEUMATIC FEVER AND BACTERIAL ENDOCARDITIS

(Continued from Page 1092)

even though the temperature returns to normal and the patient is asymptomatic.

Penicillin

Children and adults—200,000 to 250,000 units three times a day for a full ten days.

Other Antibiotics.—Broad spectrum antibiotics such as erythromycin and the tetracyclines are useful in patients who are sensitive to penicillin. If given for ten days, these antibiotics are probably as effective as oral penicillin in the treatment of streptococcal infections but are subject to the same uncertainties of administration by the oral route.

The following therapy is not effective in preventing rheumatic fever when used as treatment for streptococcal infections: sulfonamide drugs; penicillin troches or lozenges.

Prevention of Streptococcal Infections In Rheumatic Individuals

Many streptococcal infections occur without producing clinical manifestations. For this reason, prevention of recurrent rheumatic fever must depend on continuous prophylaxis rather than solely on treatment of acute attacks of streptococcal disease.

Recommendations for Prophylaxis

Who should be treated?—In general, all patients who have a *well-documented history of* rheumatic fever or chorea or who show *definite evidence* of rheumatic heart disease should be given continuous prophylaxis. Although recurrent attacks of rheumatic fever occur at any age, the risk of recurrences decreases with the passage of years. Some physicians may wish to make exceptions to instituting prophylaxis in certain of their adult patients, particularly those without heart disease who have had no rheumatic attacks for many years.

How long should prophylaxis be continued?—The risk of acquiring a streptococcal infection and the possibility of rheumatic fever recurrences continue throughout life. It is, therefore, suggested that the safest general procedure is to continue prophylaxis indefinitely.

When should prophylactic treatment be initiated?—For *active rheumatic fever*, treatment should start as soon as the diagnosis of rheumatic fever is made or any time thereafter when the patient is first seen. The streptococcus should be eradicated with penicillin (See Treatment Schedules), following which the prophylactic regimen is instituted.

For *inactive rheumatic fever*, prophylaxis should be instituted when the patient is first seen.

Should prophylaxis be continued during the summer?—Yes, continuously. Streptococcal infections can occur at any season although they are more prevalent in the winter.

Prophylactic Methods—Oral and Intramuscular

Oral medication depends on patient co-operation. In most instances, failures of sulfonamide or penicillin prophylaxis occur in patients who fail to ingest the drug regularly. This can be avoided by long-acting depot penicillin given intramuscularly once a month.

Dosage—1,200,000 units Benzathine Penicillin G—intramuscularly, once a month.

Toxic reactions are the same types as with oral penicillin (see below), but occur more frequently and tend to be more severe. Some local discomfort usually is experienced.

Sulfadiazine Oral

Sulfadiazine oral has the advantage of being easy to administer, inexpensive and effective. (Other newer sulfonamides are probably as effective.) Although resistant streptococci have appeared during mass prophylaxis in the armed forces, this is rare in civilian populations.

Dosage—From 0.5 to 1.0 gm. once a day. The smaller dose is to be used in children under sixty pounds.

Toxic reactions are infrequent and usually minor. In any patient being given sulfonamides, consider all rashes and sore throats as possible toxic reactions, especially if they occur in the first eight weeks. In patients on this prophylactic regimen it is hazardous to treat toxic reactions or intercurrent infections with sulfonamides. The chief toxic reactions are:

Skin Eruptions.—For morbilliform, continue drug with caution. For urticaria or scarlatiniform rash associated with sore throat or fever, discontinue drug.

Leukopenia.—Discontinue if white blood count falls below 4,000 and polynuclear neutrophiles below 35 per cent because of possible agranulocytosis, which is often associated with sore throat and a rash. Because of these reactions, weekly white blood counts are advisable for the first two months of prophylaxis. The occurrence of agranulocytosis after eight weeks of continuous prophylaxis with sulfonamides is extremely rare.

Penicillin—Oral

Penicillin has the desirable characteristics of being bactericidal for Group A streptoccoci and of rarely producing serious toxic reactions. A careful history of allergic reactions and previous response to penicillin should be obtained.

Dosage—200,000 to 250,000 units once or twice a day. The latter is probably more effective.

Toxic reactions are urticaria and angioneurotic edema. Reactions similar to serum sickness in-

(Continued on Page 1100)

no lagging appetites with INCREMIN*

LYSINE-VITAMIN SUPPLEMENT LEDERLE

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INCREMIN offers l-Lysine for improved protein utilization, and essential vitamins for their stimulating effect on appetite.

Tasty INCREMIN is available in either Drops or Tablets. Caramel-flavored Tablets may be orally dissolved, chewed or swallowed. Cherry-flavored Drops may be mixed with milk, formula or other liquid. Tablets: bottles of 30. Drops: plastic dropper-type bottle of 15 cc.

Each INCREMIN Tablet
or each cc. of INCREMIN Drops *contains:*

l-Lysine 300 mg.	Pyridoxine (B_6) 5 mg.
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Thiamine (B_1) 10 mg.	

Dosage: only 1 INCREMIN Tablet or 10-20 INCREMIN Drops daily.

*Reg. U. S. Pat. Off.

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AMERICAN CYANAMID COMPANY
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PREVENTION OF RHEUMATIC FEVER AND BACTERIAL ENDOCARDITIS

(Continued from Page 1098)

clude fever and joint pains and may be mistaken for rheumatic fever.

Although many individuals who have had reaction to penicillin may subsequently be able to tolerate the drug, it is safer not to use penicillin if the reaction has been severe and particularly if angioneurotic edema has occurred.

Protection of Rheumatic Fever Patients in Hospital Wards

Patients with rheumatic fever or rheumatic heart disease are often exposed to increased hazards in hospital wards as the result of contact with streptococcal carriers or patients with active streptococcal infections. Protection of the rheumatic patient is imperative because of the high rate of recurrence of rheumatic fever following streptococcal infection. In addition to the customary precautions employed to prevent cross infections, the following procedures are recommended:

All hospital patients with streptococcal infections should be fully treated by one of the methods outlined in "Recommended Treatment Schedules," in order to eliminate streptococci and avoid the carrier state.

Patients admitted with acute rheumatic fever should immediately receive a full course of antibiotic therapy, whether or not streptococci are isolated from the throat. (See "Recommended Treatment Schedules,") As soon as the therapeutic course is completed, continuous streptococcal prophylaxis should be instituted (See "Prophylactic Methods, Oral and Intramuscular")

Patients with inactive rheumatic fever or rheumatic heart disease should be placed on continuous streptococcal prophylaxis on admission to the hospital, or as soon thereafter as the diagnosis is established. (See "Prophylactic Methods—Oral and Intramuscular")

Prophylaxis Against Bacterial Endocarditis

In individuals who have rheumatic or congenital heart disease, bacteria may lodge on the heart valves or other parts of the endocardium, producing bacterial endocarditis. Transient bacteremia which may lead to bacterial endocarditis is known to occur following various surgical procedures, including dental extractions and other dental manipulations which disturb the gums, the removal of tonsils and adenoids, the delivery of pregnant women, and operations on the gastrointestional or urinary tracts. It is good medical and dental practice to protect patients with rheumatic or congenital heart disease by prophylactic measures.

Recommended Prophylactic Methods

Penicillin is the drug of choice for administration to patients with rheumatic or congenital heart disease undergoing dental manipulations or surgical procedures in the oral cavity.

Although the exact dosage and duration of therapy are somewhat empirical, there is some evidence that for effective prophylaxis reasonably high concentrations of penicillin must be present at the time of the dental procedure. The dosage regimens employed for long-term prophylaxis of rheumatic fever are inadequate for this purpose. High levels of penicillin in the blood over a period of several days are recommended to prevent organisms from lodging in the heart valves during the period of transient bacteremia.

Not only should penicillin prophylaxis be designed to afford maximum protection, but the method must also be practical. In general, the combined oral and parenteral route of administration is preferred. All patients should be instructed to report to their physician or clinic should they develop fever within a month following the operation.

First Choice—Intramuscular and Oral Penicillin Combined.—For *two days prior to surgery*—200,000 to 250,000 units by mouth four times a day. *On day of surgery*—200,000 to 250,000 units by mouth four times a day, and 600,000 units aqueous penicillin, with 600,000 units procaine penicillin shortly before surgery. For *two days thereafter*—200,000 to 250,000 units by mouth four times a day.

Second Choice (if infection is not feasible) Oral Penicillin.—200,000 to 250,000 units four times a day, beginning two days prior to the surgical procedure and continued through the day of surgery or dental procedure and two days thereafter.

Contraindications.—A history of sensitivity to to penicillin.

Other Antibiotics.—Erythromycin or the broad spectrum antibiotics should be employed as prophylaxis in patients who are sensitive to penicillin. In those who are undergoing surgery of the urinary or lower gastrointestional tract, oxytetracycline should be administered in full dosage for five days, beginning treatment two days prior to the surgical procedure.

COMMITTEE ON PREVENTION OF RHEUMATIC FEVER AND BACTERIAL ENDOCARDITIS

CHARLES H. RAMMELKAMP, JR., M.D., *Chairman*
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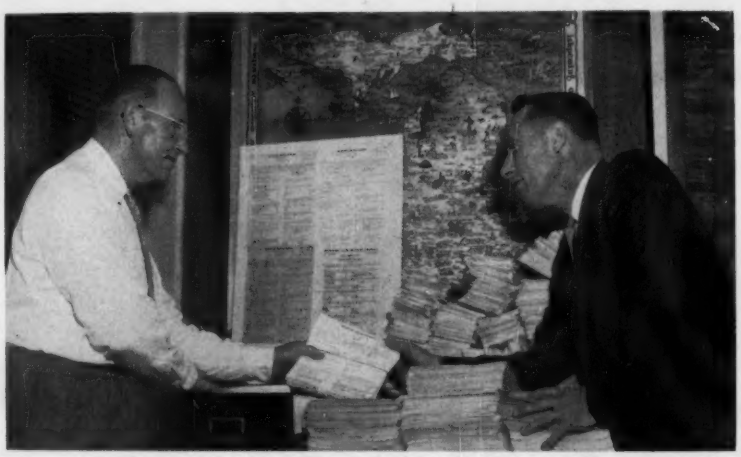
PR REPORT

QUESTIONNAIRES FLOOD MSMS HEADQUARTERS

Enthusiastic support assures survey vitality. Results of the Medical Insurance Opinion Study in Michigan will be based upon the views of more than 12,000 persons.



In Lansing, J. K. Altland, M.D., President of the Michigan Health Council *(left)* and Kenneth H. Johnson, M.D., Speaker of the MSMS House of Delegates, look over the questionnaires returned by the public and doctors of medicine during the multi-phase MSMS Medical Insurance Opinion Study in Michigan. More than 12,000 ballots were returned, processed, and tabulated. Analysis of the study results will be presented to the House of Delegates and the public in Grand Rapids on September 23. The Michigan Health Council co-operated with MSMS in conducting the Survey of Consumer Opinion on Medical Insurance Protection—a part of the over-all study.

The multi-phase study is sponsored by the Michigan State Medical Society and the Michigan Health Council. Included are separate surveys of Medical Insurance Coverage and Related Costs; Consumer Opinion on Medical Insurance Protection; a survey of Doctor Opinion on Michigan Medical Service; and a study of Related Surveys on Protection Against Medical Service Needs.

The 12,000 ballots submitted represent an unusually high return for a study of this nature and scope.

Commenting on the favorable public interest, D. Bruce Wiley, M.D., MSMS Survey Committee Chairman, said:

"The excellent public and doctor response was due principally to strong personal interest in the subject matter. However, due credit must be accorded the communications media of the state for their role in publicizing the importance of the surveys.

"Transfer of information from questionnaire to IBM punch cards will be completed by mid-August. Then the formidable task of analyzing the mountain of statistical information will begin."

Results of the survey will not be known until presentation of the full study report is made to the MSMS House of Delegates and the public generally on September 23.

National attention will be focused on Grand Rapids during the formal presentation of the Study Report to the assembled delegates by L. Fernald Foster, M.D., MSMS Secretary.

Representatives of numerous state and national medical organizations are expected to attend the Grand Rapids meeting in order to obtain first-hand information and details of the study.

A chronic cough is the most significant symptom in the diagnosis of lung cancer.

* * *

Hematuria is a cancer warning.

* * *

Solution of the problem of gastric cancer lies in the earlier recognition of those vague, confusing symptoms—the same symptoms described by Avenzoar 800 years ago.

* * *

Of all the sites of malignancy in the large bowel, cancer of the rectum is the easiest to diagnose.

little

How to win friends ...

The Best Tasting Aspirin you can prescribe.

The Flavor Remains Stable down to the last tablet.

25¢ Bottle of 48 tablets (1¼ grs. each).

We will be pleased to send samples on request.

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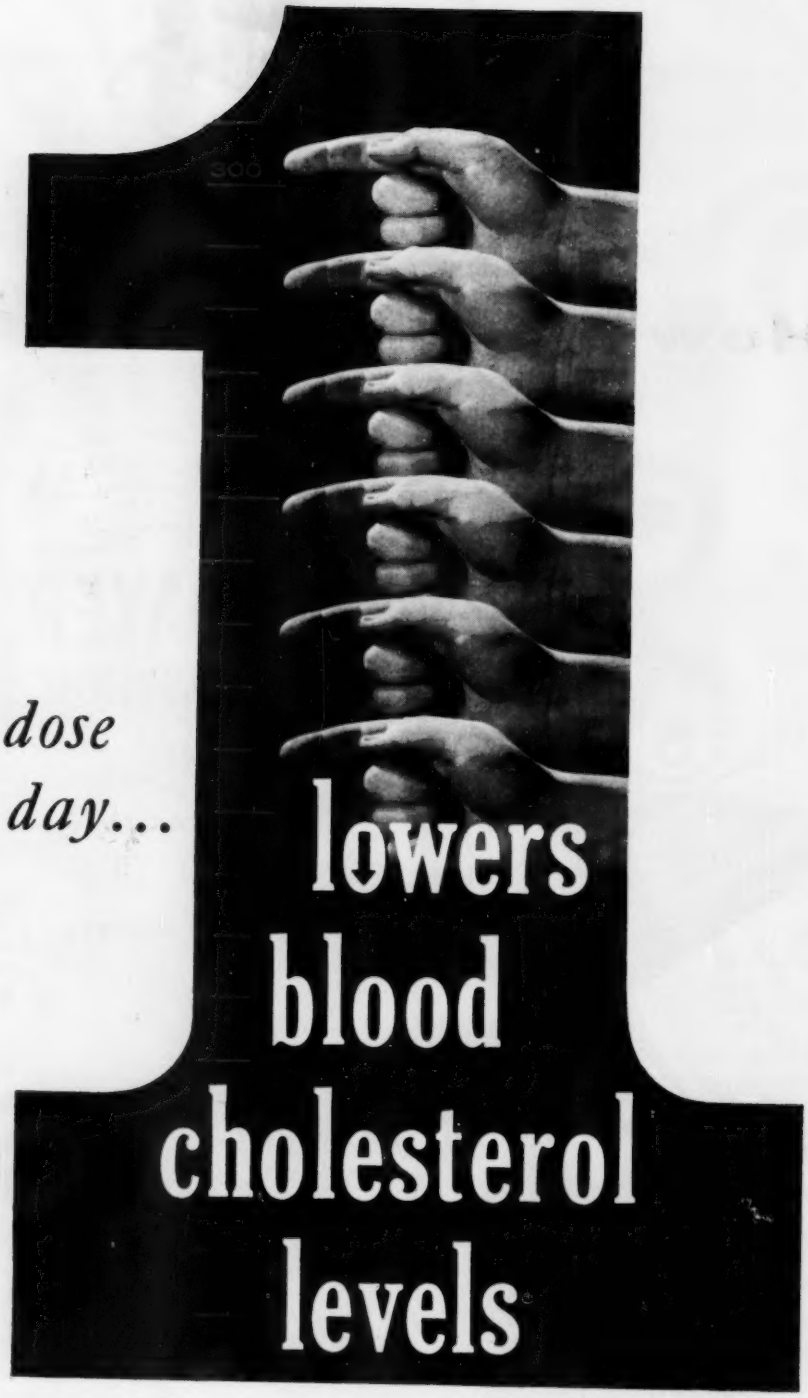
one dose
a day...
lowers
blood
cholesterol
levels

AMA Washington Letter

THE MONTH IN WASHINGTON

If dangerous epidemics of Asian flu break out in the country this fall and winter, the medical profession will have its hands full. But the doctors won't be taken by surprise, nor will they lack specific information on proper treatment.

While the attacks in the U.S. were still sporadic and the death rate low—three fatalities in the first 11,000 reported cases—a number of major, nationwide efforts were under way to combat the disease in the months when influenza rates generally are the highest.

1. Acting in co-ordination with U.S. Public Health service, the American Medical Association was pressing forward with its campaign to insure that all physicians are informed of how to deal with the disease.

2. In line with recommendations of the AMA committee, a number of state medical societies by mid-August had laid out complete emergency plans, ready to be put in operation if needed.

3. U.S. Public Health Service epidemic intelligence experts were scanning the country for outbreaks that might be Asian influenza, and other PHS officers were investigating acute respiratory diseases. PHS also set up machinery to keep the medical and health professions informed on nationwide developments in the influenza picture.

4. Advising Surgeon General Burney was a special committee, which included representatives from AMA, American Academy of Pediatrics, American Academy of General Practitioners and the Association of State and Territorial Health Officers.

5. Manufacturers of the vaccine, by running their plants on two or three shifts and seven days a week, were hoping to have produced 60,000,000 cc. by February 1.

There was, of course, the possibility that with Congress in session through most of the summer a vast federal program would be set up, with the U.S. purchasing and allocating the vaccine. It was heartening to the medical profession that this possibility was pretty well eliminated in the early stages when the Department of Health, Education, and Welfare announced the following as official policy:

"The Public Health Service, in co-operation with the medical profession, will stimulate and promote a nationwide voluntary program of vaccination against the prevalent strain of influenza. It will not, however, request federal funds for the purchase or administration of vaccine—except for its own legal beneficiaries. The State and Territorial health officers and the American Medical Association have jointly assured the Surgeon General that community resources, both public and private, will be mobilized to provide vaccinations for persons who are unable to pay for such protection."

This policy was reaffirmed later by the White House, when the President asked for a half a million dollars to finance the additional work for Public Health Service. The White House statement said flatly that it did not plan to have the federal government buy vaccine.

The AMA's Board of Trustees selected as members of the special committee the same physicians who make up the Civil Defense Committee, with Dr. Harold C. Lueth as chairman. In addition to the work of this committee, special articles are being published in the AMA Journal, mass circulation media are being used to bring information on Asian influenza to the lay public and the AMA Council on Drugs is investigating and reporting to physicians on the use of antibiotics in treatment of the disease.

NOTES: To wind up a long investigation of the safety of chemical additives to foods, a House committee called in a panel of scientists for two days of discussion. In general they concluded: Be careful about any mandatory federal controls.

Another hearing on weight-reducing preparations sold over-the-counter in drug stores heard a parade of witnesses, all of whom had about the same opinion: In themselves, the pills all are virtually useless in inducing loss of weight, but their other effects range from harmless to definitely dangerous.

* * *

Veterans Administration is increasing fees to physicians under the hometown care program, with the new schedules varying by states and areas. During this fiscal year VA will pay out $8 million under this program.

* * *

A former AMA president, Dr. Elmer Hess, now heads two government advisory committees, the Health Resources Advisory Committee to Office of Defense Mobilization and the Medical Advisory Committee to Selective Service, membership of which is the same. He succeeds Dr. Howard Rusk.

Secretary Folsom is considering appointing a committee of outsiders to investigate and evaluate progress on medical research by the federal government.

When smooth muscle spasm gets rough on your patients

Like oil on troubled waters...

DONNATAL®

provides superior spasmolysis Robins

through provision of natural belladonna alkaloids in optimal ratio, with phenobarbital

Formula

DONNATAL TABLETS
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DONNATAL ELIXIR (per 5 cc.)

Hyoscyamine Sulfate.....0.1037 mg.
Atropine Sulfate .....0.0194 mg.
Hyoscine Hydrobromide..0.0065 mg.
Phenobarbital (¼ gr.).... 16.2 mg.

DONNATAL EXTENTABS®
(Extended Action Tablets)

Each Extentab (equivalent to 3 Tablets) provides sustained 1-tablet effects...evenly, for 10 to 12 hours—all day or all night on a single dose.

A. H. ROBINS CO., INC., RICHMOND 20, VA.

Combined Estrogen-Androgen Therapy Proved 96% Effective in Preventing Postpartum Breast Engorgement[1]

Dual Steroid Approach also Successful in Osteoporosis

Of more than 4 million babies born in the United States this year, approximately 75 per cent will not be breast fed.[2] Combined estrogen-androgen therapy will effectively suppress lactation and prevent postpartum breast engorgement in these mothers.

Osteoporosis also ranks high on the list of present day medical problems because of the increasing older population.

In either condition, combined estrogen-androgen therapy produces a complementary metabolic response with little or no side effects.

In postpartum breast engorgement the rationale of therapy is explained as follows: During pregnancy, the high estrogen titer exerts an inhibitory effect on the anterior pituitary, thereby preventing the release of the lactogenic hormone, prolactin. Postpartum, the estrogen level drops off suddenly, and allows the release of previously inhibited prolactin which is now free to initiate the flow of milk. Sex hormones re-establish pituitary inhibition, thus arresting the lactating process.

In Fiskio's study,[1] "Premarin" with Methyltestosterone effectively relieved postpartum breast engorgement and suppressed lactation in 96.2 per cent of his group of 267 patients. Notably absent were breast abscesses, nausea, vomiting, excessive lochia, withdrawal bleeding or virilization. Menses were re-established after the normal six week period. The lack of mental depression during the puerperium was especially gratifying.

Osteoporosis results from impairment of osteoblastic activity, and gonadal hormone decline is possibly the most prevalent cause. Estrogen stimulates osteoblastic activity and increases calcium and phosphorus retention, while androgen exerts an anabolic or protein-forming action. Prognosis for bone recalcification is good, providing therapy is continued for extended periods. The possibility of side effects is minimized because the two hormones exert an opposing action on sex-linked tissue.

Estrogen and androgen as combined in "Premarin"• with Methyltestosterone provide a treatment of choice in osteoporosis.

Recommended Dosage: (Directions refer to *yellow* tablets.)

Postpartum breast engorgement — Short duration therapy — (one week) — 3 tablets every four hours for five doses — then 2 tablets daily for rest of week. "Step-down" therapy — (10 to 15 days) — 1st day — 4 tablets; 2nd day — 3 tablets; 3rd day — 2 tablets; thereafter, 1 tablet daily for 10 to 15 days. *It is important to start therapy as soon as possible after delivery.*

Osteoporosis: 2 tablets daily, for the first three weeks. Then 1 tablet daily thereafter. In the female, it is suggested that combined therapy be given in 21 day courses with a rest period of about one week between courses, and be continued for 6 to 12 months; following this period, the patient may be maintained with cyclic therapy employing "Premarin" Tablets alone.

Supplied in two potencies: *Yellow tablets* — each contains 1.25 mg. conjugated estrogens, equine ("Premarin") and 10 mg. methyltestosterone. *Red tablets* — each contains 0.625 mg. and 5 mg. respectively. Bottles of 100 and 1,000.

Bibliography: Available on request.

AYERST LABORATORIES
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PREVENT P.P.B.E.

Postpartum breast engorgement was satisfactorily prevented in 96 per cent of a series of 267 patients who received "Premarin" with Methyltestosterone promptly after delivery. No serious side effects were noted, and the absence of mental depression in the puerperium was notable. (Fiskio, P.W.: GP 11:70 (May) 1955.)

"PREMARIN" WITH METHYLTESTOSTERONE
for combined estrogen-androgen therapy

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Single sulfonamide specifically for urinary tract infections —unexcelled in long-term therapy. Gram for gram "Thiosulfil" is unexcelled for effective bacteriostatic action against a broad variety of urinary tract pathogens. High solubility, complete absorption, minimal acetylation, and negligible penetration into red blood cells ensure rapid and effective action with minimal side effects.

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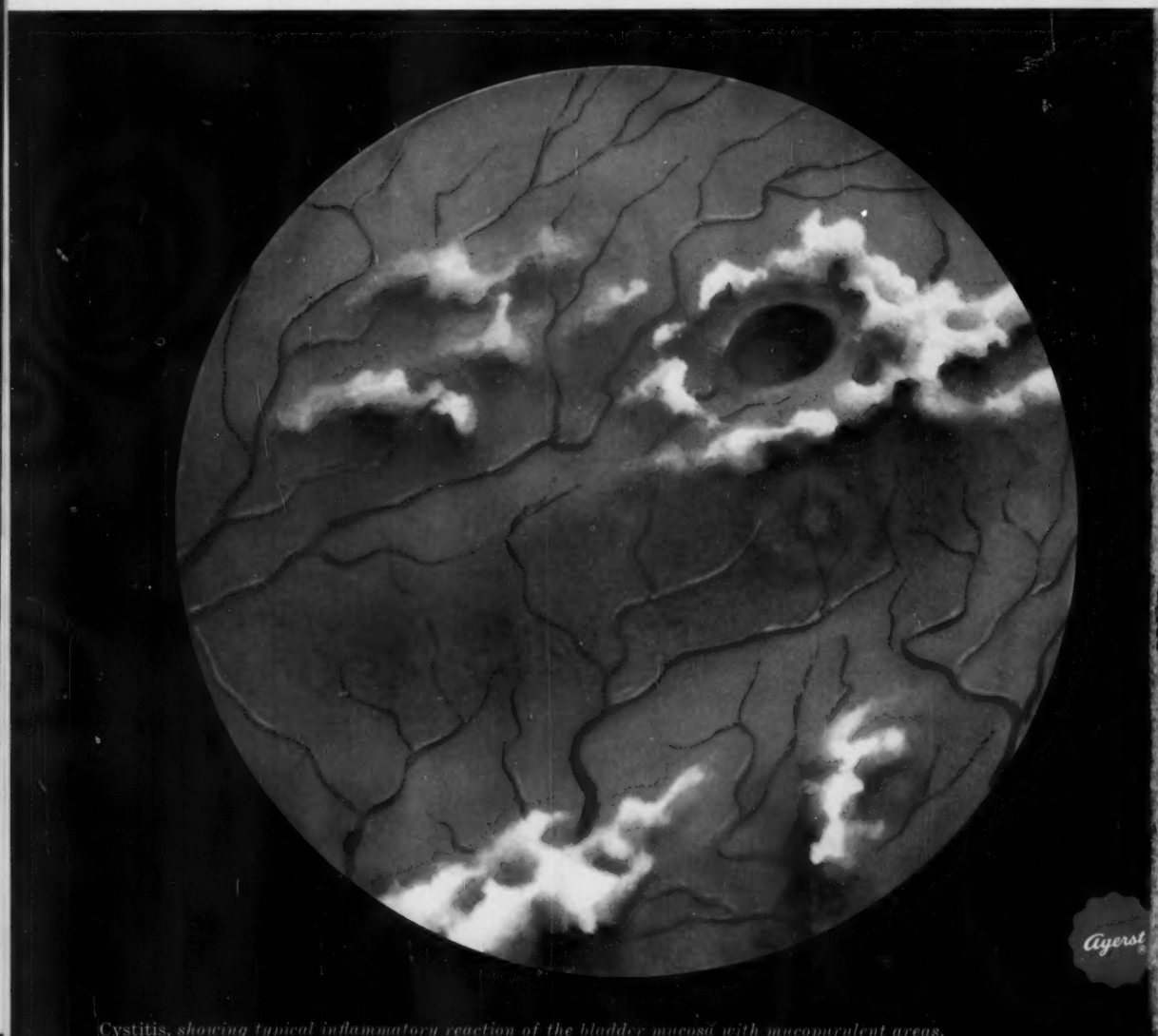
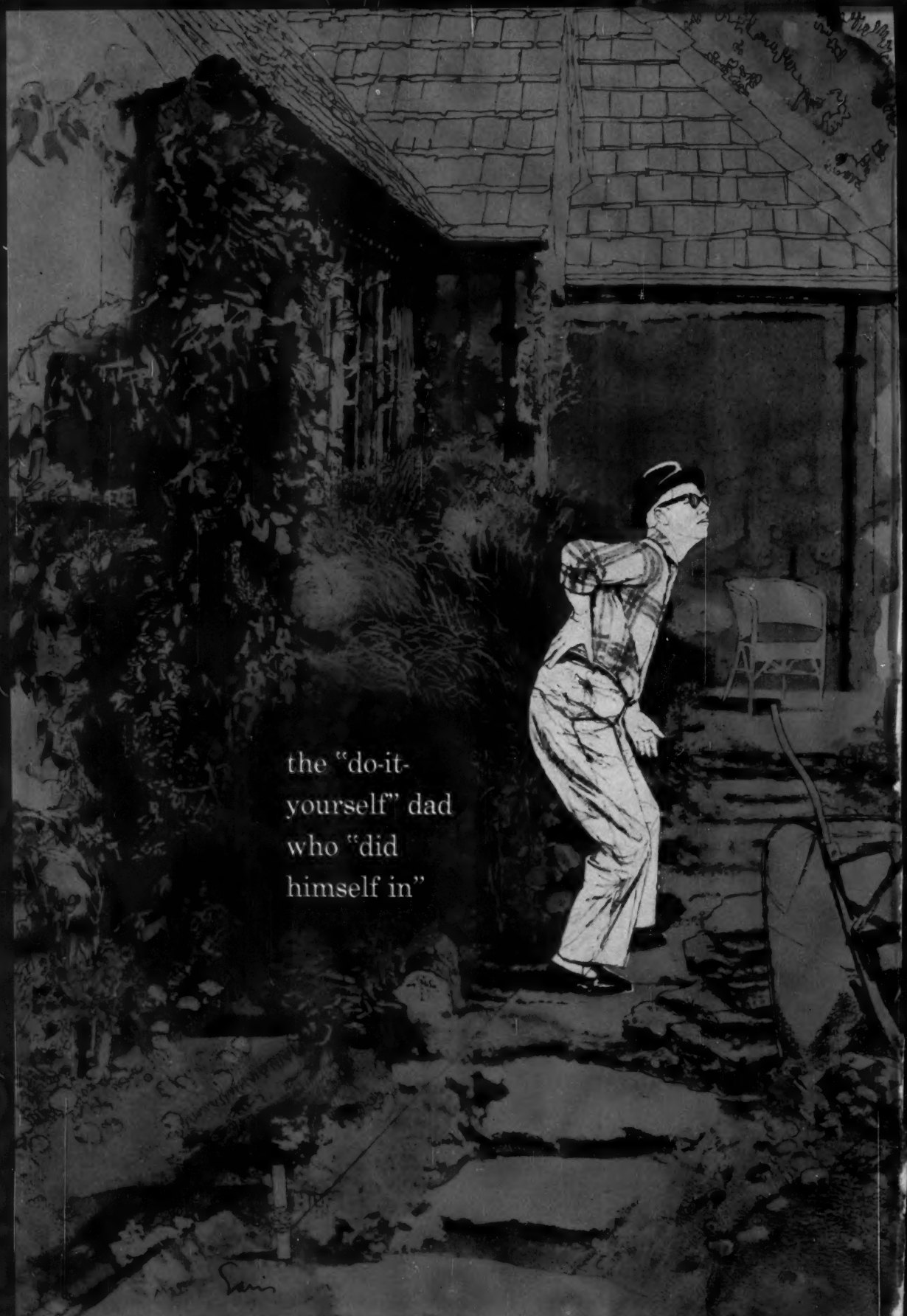
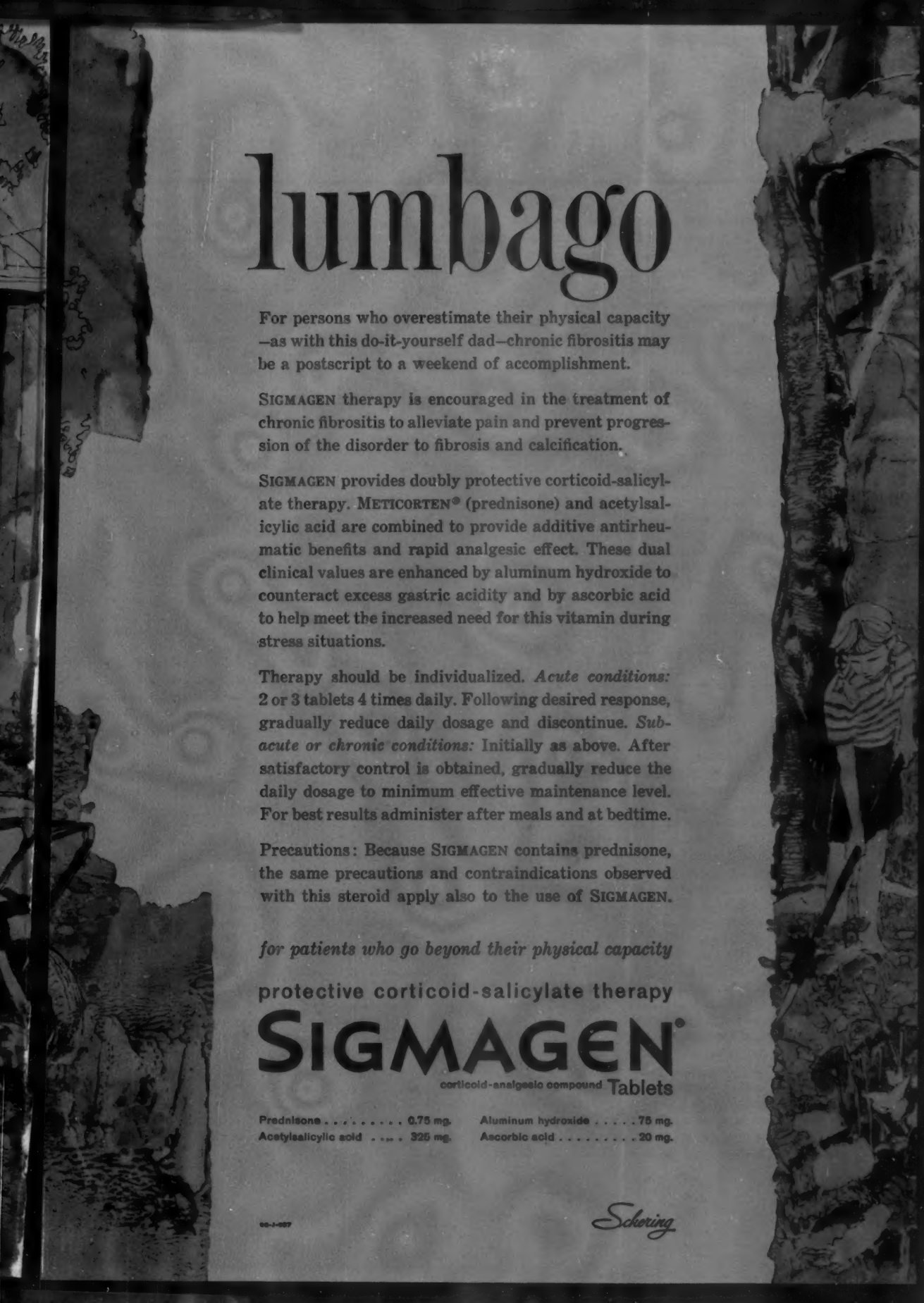
direct / effective **"THIOSULFIL"®**

(Brand of sulfamethizole)



Cystitis, *showing typical inflammatory reaction of the bladder mucosa with mucopurulent areas.*


the "do-it-
yourself" dad
who "did
himself in"



lumbago

For persons who overestimate their physical capacity —as with this do-it-yourself dad—chronic fibrositis may be a postscript to a weekend of accomplishment.

SIGMAGEN therapy is encouraged in the treatment of chronic fibrositis to alleviate pain and prevent progression of the disorder to fibrosis and calcification.

SIGMAGEN provides doubly protective corticoid-salicylate therapy. METICORTEN® (prednisone) and acetylsalicylic acid are combined to provide additive antirheumatic benefits and rapid analgesic effect. These dual clinical values are enhanced by aluminum hydroxide to counteract excess gastric acidity and by ascorbic acid to help meet the increased need for this vitamin during stress situations.

Therapy should be individualized. *Acute conditions:* 2 or 3 tablets 4 times daily. Following desired response, gradually reduce daily dosage and discontinue. *Subacute or chronic conditions:* Initially as above. After satisfactory control is obtained, gradually reduce the daily dosage to minimum effective maintenance level. For best results administer after meals and at bedtime.

Precautions: Because SIGMAGEN contains prednisone, the same precautions and contraindications observed with this steroid apply also to the use of SIGMAGEN.

for patients who go beyond their physical capacity

protective corticoid-salicylate therapy

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corticoid-analgesic compound Tablets

Prednisone	0.75 mg.	Aluminum hydroxide	75 mg.
Acetylsalicylic acid	325 mg.	Ascorbic acid	20 mg.

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AMA News Notes

AMA PLANS SCHOOL HEALTH CONFERENCE

"A Decade of Progress in Fitness" will be the theme of the sixth National Conference on Physicians and Schools to be held October 30 to November 2, at the Moraine-on-the-Lake Hotel, Highland Park, Illinois Sponsored by the AMA's Bureau of Health Education, this year's program will emphasize a continuing interest in the health and all around fitness of children and youth.

More than sixty nationally recognized consultants and resource persons have been selected from medicine, education and public health to lead the discussion groups. Topics to be considered include: the physician's role in youth fitness; community co-ordination; mental and emotional aspects of fitness; dramatizing basic fitness procedures; medical guidance in girls' recreation programs; special health problems in athletics; fitness of school personnel; optimum fitness for youth with special health problems; home and family relations; food factors in fitness.

As in previous conferences, state medical societies, state health and education departments, and national agencies concerned with school health and health education have been invited to send representatives. State societies should select their delegates and notify the Bureau as soon as possible. In addition, medical associations should encourage state health and education departments to send representatives so that a nucleus of well-informed persons from several professions can lend interprofessional leadership to school health activities within each state.

AMA JOINTLY SPONSORS MEETING ON RADIO AND TV

Representatives of medical societies, radio and television stations, voluntary health organizations, medical schools and allied groups will be invited to attend a national conference on "How to Use Local Television and Radio in the Health Field," November 7-8, at Chicago's Hotel Sheraton-Blackstone. The two-day conference is being sponsored jointly by the American Medical Association and the National Association of Radio and Television Broadcasters.

Keynote speakers at the opening session will be Dr. David B. Allman, AMA president, and Harold E. Fellows, NARTB president, discussing the importance of public interest broadcasting from the point of view of the medical profession and the radio-television industry. Panel discussions will be held on "Mutual Obligations in Public Interest Programing" and "The Matter of Taste"—the need for keeping tab on material presented over radio and television.

In addition, the group will split up into three sections by size of community to consider such things as the importance of good working relationships between health groups and radio and TV stations; financing of public interest presentations; programing of public interest presentations (content, format, live shows, film shows, visual aids); utilization of spot announcements; working with news rooms; evaluation of program impact; promotion; medical ethics involved in public interest programing.

The program committee has announced that only a limited number can be accommodated at the conference so advance registration is advisable Register by writing the American Medical Association, 535 North Dearborn, Chicago 10, Illinois. No fee for the conference will be charged, but luncheon tickets will be sold.

AMEF SPEARHEADS FALL CAMPAIGN

The American Medical Education Foundation will launch an intensive fall campaign for contributions to the nation's medical schools. October and November have been selected as the months in which to appeal to physicians for individual donations.

To assist local committees the AMEF has prepared a new pocket portfolio with information cards and pledge envelopes. A new folder entitled "So They May Serve" has also been produced for use in local and state mailings. A new exhibit—first displayed at the AMA convention in New York—is available from the Foundation office for state meetings. Featuring pictures of medical schools and gift checks to AMEF, this exhibit illustrates reasons why medical schools should be privately supported.

In a progress report as of July 1, the AMEF announced that the six million dollar mark of contributions from the medical profession had been passed earlier this year. The report also stated that so far in 1957 the AMEF income is 15 per cent higher than in the same period last year.

Physicians are urged to contribute generously to the Foundation during the remaining months of 1957.

AMA TO STAGE FALL RURAL HEALTH MEETING

How to develop more effective rural health programs will be the chief topic of concern at the American Medical Association's second study conference, October 4 and 5, for chairmen and members of state rural health committees. Sponsored by the Council on Rural Health, the conference again will be held at Purdue University.

The opening session will be devoted to a discussion of organizational techniques of statewide rural health committees. Another session will feature representatives of leading farm organizations outlining their health programs. Following this latter presentation will be a discussion of ways that the medical profession and agricultural groups can best work together in developing better health programs. Registrants also will have an opportunity to get together with others from their own regions to discuss mutual problems.

Reservations for this conference should be sent directly to Students Union, Purdue University, Lafayette, Indiana.

symptomatic relief . . . plus!

Achrocidin*

TETRACYCLINE-ANTIHISTAMINE-ANALGESIC COMPOUND

ACHROCIDIN is a well-balanced, comprehensive formula for treating acute upper respiratory infections.

Debilitating symptoms of malaise, headache, pain, mucosal and nasal discharge are rapidly relieved.

Early, potent therapy is offered against disabling complications to which the patient may be highly vulnerable, particularly during febrile respiratory epidemics or when questionable middle ear, pulmonary, nephritic, or rheumatic signs are present.

ACHROCIDIN is convenient for you to prescribe—easy for the patient to take. Average adult dose: two tablets, or teaspoonfuls of syrup, three or four times daily.

tablets

ACHROMYCIN® Tetracycline	125 mg.
Phenacetin	120 mg.
Caffeine	30 mg.
Salicylamide	150 mg.
Chlorothen Citrate	25 mg.

Bottle of 24 tablets

syrup

Each teaspoonful (5 cc.) contains:

ACHROMYCIN® Tetracycline equivalent to tetracycline HCl	125 mg.
Phenacetin	120 mg.
Salicylamide	150 mg.
Ascorbic Acid (C)	25 mg.
Pyrilamine Maleate	15 mg.
Methylparaben	4 mg.
Propylparaben	1 mg.

Available on prescription only

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Lederle

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Current Concepts in

Infant Carbohydrate Metabolism

The adequately balanced diet must contain carbohydrate as an essential nutrient. Though some carbohydrate becomes available to the body from the transformation of protein and fat, these sources contribute minor amounts of the total carbohydrate requirement.

Body energy comes from the oxidation of carbohydrate and fat but carbohydrates are oxidized preferentially. The brain derives its supply of energy exclusively from the oxidation of carbohydrate. Besides, the infant's requirement for energy is unusually high and can be most readily satisfied by carbohydrate.

All tissues of the body constantly require and use carbohydrate under all conditions. Even a temporary fall of the blood sugar below critical levels is accompanied by serious disability. However, the amount of carbohydrate in the body at one time is very small. It would sustain life for only a fraction of a day. Consequently, the infant must be offered carbohydrate frequently to yield a generous proportion, usually over half, of the total caloric intake.

The breast-fed infant receives about 12 gms. of carbohydrate per kilo body weight, while the artificially fed infant receives about 8 to 14 gms. per kilo. In the choice of an added carbohydrate, we must consider adaptability, tolerance, digestability, absorption, fermentability, and irritation to the intestines.

The same problems of infant feeding recur from generation to generation, but solutions may differ with each era. The carbohydrate requirement for all infants is as completely fulfilled by KARO® Syrup today as a generation ago. Whatever the type of milk adapted to the individual infant, KARO Syrup may be added confidently because it is a balanced mixture of low-molecular weight sugars, readily miscible, well tolerated, palliative, hypoallergenic, resistant to fermentation in the intestine, easily digestible, readily absorbed and non-laxative. It is readily available in all food stores.

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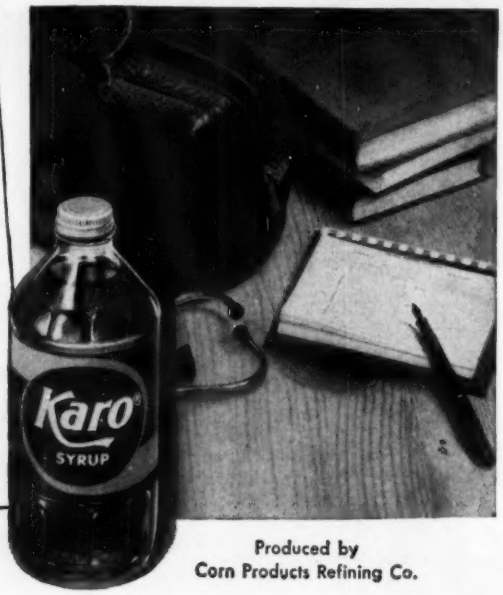
INFANTS' CALORIC REQUIREMENTS

AGE (Months)	CALS. Per 24 hrs.	CALS. Per Kilo	CALS. Per Pound
1	500	115	52
2	625		
3	675		
4	725	110	50
5	750		
6	800		
7	825	100	45
8	850		
9	875		
10	900	95	43
11	950		
12	1000		
24	1200	90	40



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Meat...

and the Need for Adequate Protein in Therapeutic Nutrition

Liberal protein intake is considered to be of therapeutic value in a wide variety of pathologic conditions.[1] Advances in the understanding of protein metabolism indicate that dietary protein should provide amino acids in proportions paralleling physiologic needs.[2, 3] In experimental studies with animals, low protein diets supplying amino acids disproportionate to needs have been shown to effect physiologic harm by depressing growth, by inducing amino acid and B-vitamin deficiencies, and by causing deposition of fat in the liver.[4]

Hence not only the *amount* of protein but also its *quality* (in terms of its amino acid proportions) is important. It has been suggested[1] that for therapeutic purposes about two-thirds of the ingested protein come from foods of animal source, whose protein resembles human body protein in amino acid interrelationships. Depending on the needs of the patient, the therapeutic diet may supply 1.0 or more grams of protein per kilogram of body weight. Adequate caloric intake is required to protect the dietary protein from dissipation for energy purposes.

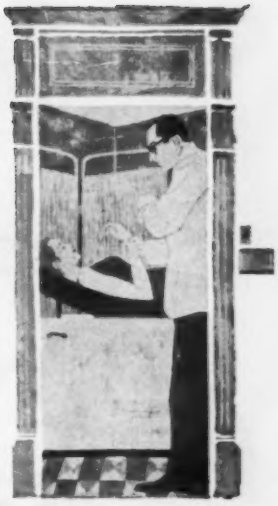
Meat, with its high content of top-quality protein, holds a prominent place among foods which supply this essential for establishing satisfactory levels of amino acids in physiologic proportions. It also contributes valuable amounts of B vitamins and essential minerals—nutrients which play a basic role in intermediate metabolism.

---

1. Proudfit, P. T., and Robinson, C. H.: Nutrition and Diet Therapy, ed. 11, New York, The Macmillan Company, 1955, pp. 314-320.
2. Harper, A. E.: Amino Acid Imbalance, Toxicities and Antagonisms, Nutrition Rev. *14*:225 (Aug.) 1956.
3. Amino Acid Requirements of Adult Man, Nutrition Rev. *14*:232 (Aug.) 1956.
4. Amino Acid Imbalance and Supplementation, Editorial, J.A.M.A. *161*:884 (June 30) 1956. Council on Foods and Nutrition, American Medical Association: Importance of Amino Acid Balance in Nutrition, J.A.M.A. *158*:655 (June 25) 1955.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago... Members Throughout the United States



For the greatest potential value and the least probable risk

SIGNEMYCIN* V

OLEANDOMYCIN TETRACYCLINE-PHOSPHATE BUFFERED

multi-spectrum potentiated therapy . . . **buffered for higher, faster antibiotic levels ...adds new certainty in antibiotic therapy . . .** ***particularly for that 90% of the patient population treated at home or office when susceptibility testing is*** **not** ***practical—***

Supplied:

SIGNEMYCIN V CAPSULES containing 250 mg. (oleandomycin 83 mg., tetracycline 167 mg.), phosphate buffered. Bottles of 16 and 100.

SIGNEMYCIN† CAPSULES—250 mg. (oleandomycin 83 mg., tetracycline 167 mg.), bottles of 16 and 100; 100 mg. (oleandomycin 33 mg., tetracycline 67 mg.), bottles of 25 and 100.

SIGNEMYCIN FOR ORAL SUSPENSION—1.5 Gm., 125 mg. per 5 cc. teaspoonful (oleandomycin 42 mg., tetracycline 83 mg.), mint flavored, bottles of 2 oz.

SIGNEMYCIN INTRAVENOUS—500 mg. vials (oleandomycin 166 mg., tetracycline 334 mg.), and 250 mg. vials (oleandomycin 83 mg., tetracycline 167 mg.); buffered with ascorbic acid.

Pfizer

PFIZER LABORATORIES, Brooklyn 6, N. Y.
Division, Chas. Pfizer & Co., Inc.

World leader in antibiotic development and production

*Trademark †Trademark, oleandomycin tetracycline

"...especially suitable for out-patient and office use."†

†Ayd, F. J., Jr.: The Treatment of Ambulatory and Hospitalized Psychiatric Patients with Trilafon, presented at Ann. Meet., Am. Psychiat. Assoc., Chicago, Ill., May 13-17, 1957.

Trilafon*

(pronounced Trĭll'-ah-fon) perphenazine

the full-range tranquilizer

EXCFPTIONAL THERAPEUTIC RANGE

. . . dosage range adaptable for tension and anxiety states, ambulatory psychoneurotics, agitated hospitalized psychotics

EXCEPTIONAL POTENCY

- At least five times more potent than earlier phenothiazines

EXCEPTIONAL ANTIEMETIC RANGE

- From the mildest to the severest nausea and vomiting due to many causes

ADEQUATE SAFETY IN RECOMMENDED DOSAGE RANGES

- Jaundice attributable to the drug alone not reported
- Unusual freedom from significant hypotension
- No agranulocytosis observed
- Mental acuity apparently not dulled

TRILAFON – grey tablets of 2 mg. (black seal), 4 mg. (green seal), 8 mg. (blue seal), bottles of 50 and 500; 16 mg. (red seal), for hospital use, bottle of 500.

Refer to Schering literature for specific information regarding indications, dosage, side effects, precautions and contraindications.

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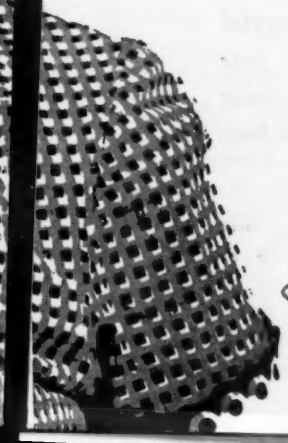

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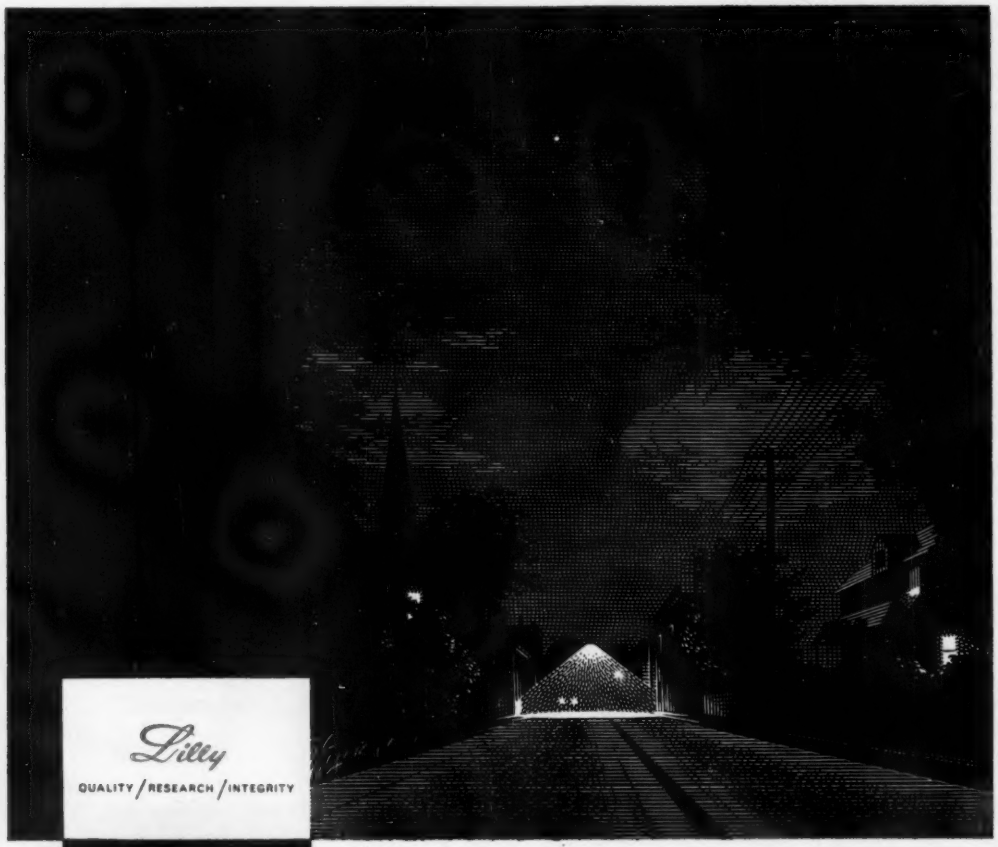

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Are Your Patients Physically Qualified to Drive?

By Harold E. DePree, M.D.
Kalamazoo, Michigan

THERE should be little need to begin this article with a recital of impressive or dramatic vital statistics relating to the "carnage on the highways," or repeat catch phrases which dramatize the appalling story of traffic death toll and injury. The efforts of the American Safety Council, lay press, and, more recently, medical literature, have presented a continuous array of facts, figures and safety slogans. So accustomed are we to these presentations that we are in danger of being lulled into a state of fatigued response. However, dulled responsiveness does not deny the fact, and perhaps a true realization of the physician's real responsibility in this situation may serve to jar us physician drivers out of any conditioned apathy. Your Michigan State Medical Society has been concerned enough to establish an active committee to study the problem and ways and means of attacking it.

In the tradition of conquest of disease, we pride ourselves on neutralizing one hazard to longevity after another in a progression from more effective treatment to ultimate prevention. But mode of living and modern man's environment brings new threats; and disease, as a cause of death, tends to give place in frequency to accidental death. We have learned continuously better ways of treating trauma, salvaging function, and rehabilitating victims of accidents. But, are we adequately turning our attention to prophylaxis in this area? Our intimate involvement forces us to face this question squarely.

A worldwide attention to the problem on the part of law enforcement agencies, industrial and insurance agencies, safety promoting agencies, and, more recently, individual and institutional groups of physicians, has yielded rather extensive study and even more extensive literature on the subject. Automobile and highway design have come under a great deal of consideration and this is to be applauded. However, of particular interest to us is the fact that much of this study has been oriented in the direction of determining the definable specific human factors in the causation of automobile accidents. Much has been elucidated and, in the words of the familiar phrase, much yet needs to be learned. There is the hope in the work of these agencies that a practicable and relatively simple driver screening procedure may evolve. Yet, again and again, these studies show that the complexity of the human causative factors in accidents, which are often of a temporary situational nature, makes the selection of safe drivers by simple means extremely difficult. Most significantly, those factors shown to be of definite importance are of a nature which could only be known and properly assessed by someone trained and having an intimate knowledge of the physical and emotional status of a prospective driver. This "someone" must logically be the driver's physician.

The discharge of our responsibility may follow at least two main paths. One involves education of our patients in the hazards which certain physical factors impose on driving, and, the other, prohibition of driving by patients we know to be bad risks on the highway. Too often the physician

TABLE I. ORGANIC FACTORS IN ACCIDENT CAUSATION†

Disorder	Recommend re: driving
Neurologic	
Epilepsy	Opinion divided from complete prohibition to qualified (5 years free of seizure, adequate aura, et cetera).
Neurologic disease involving loss of function of extremity or loss of coordinated movement.	Opinion divided but consensus states prohibition unless both arms and one leg normal. (Also individual consideration by physician.)
Neurologic disease involving disturbances of alertness in consciousness.	Individual consideration by physician.
Visual	
Visual standards	Minimal standards— Public transport drivers: 20/30 each eye (correctible to) Form fields of 70° in horizontal each eye and 140° both eyes. Yearly exams. Private car drivers: Correctible to 20/40 in the better eye. Form fields of 70° in horizontal. Meridian each eye or 140° in horizontal meridian in one eye. No requirements for color or depth.
Auditory	
Minimal	Spoken voice test. 50% of words at 5 ft. in better ear.
Cardiovascular	
Severe diminished cardiac reserve Aortic Stenosis Adams-Stokes Syndrome Hypertension with Complications Complete A-V Block Cerebro-Vascular Disease Uncontrolled paroxysmal auricular fibrillation, flutter or tachycardia. Carotid Sinus Syndrome with vertigo or syncope. Aneurysm of any centrally located vessel.	Prohibited for private car, commercial or transport drivers.
Congenital Heart Disease Organic Valvular Disease Coronary Artery Disease	To be evaluated by individual consideration.
Orthopedic	
Head and Neck Conditions which thru pain or associated neuromuscular deficit cause loss in rotation to either side of more than 75%	Prohibited
Thoracic	
Severe kyphosis, scoliosis, lordosis	Private car only (individual consideration)
Upper and Lower extremities (minimal standards)	Normal upper and lower extremities for commercial transport. Two good upper or one good upper and one good lower for passenger car.
Drug and Chemical	
Alcoholism	Obviously prohibited
Anti-histamine Anti-soporified Sedatives	Individual consideration and warning by physician.
Diabetes Mellitus	Individual consideration.

†Modified from "Medical Aspects of Motor Vehicle Accidents," *New York State Journal of Medicine*, Vol. 56: No. 24, December 15, 1956.

shares in his patient's sense of having his rightful prerogative of driving threatened. He may thus become involved, thru a misguided sense of loyalty to his patient's welfare, in an effort to preserve that prerogative, clouding good judgment of the real public hazards involved. What then are proven factors which we can recognize in our patients as signs increasing accident likelihood? This question has probably been applied most extensively to the area of industrial transport drivers. The most notable investigation and practical application is found in the experience of the New York Package Service. The physicians who checked drivers for this service found they could cut down their accident rate by paying attention to physical conditions falling under certain systemic categories. A recent symposium held in New York to study just this problem outlined important organic factors in accident causation and classified them, generally, by these same categories. With some slight modification for the purpose of simplicity, these factors would then appear as shown in Table I.

Table I is here presented as an attempt to place in tabular form the recently expressed opinion of experts in the field of accident prevention. It is undoubtedly not complete, and is not intended to serve as an authoritative reference which should guide in the selection of safe drivers nor prescribe the action of the physician in handling the problem of the unsafe driver. These physical conditions are felt to be reasonably important considerations when they involve someone guiding a potentially destructive vehicle through a traffic pattern at what are considered reasonable speeds. This presentation, it is hoped, will serve to emphasize to us as physicians, that patients with these disease states, may also occupy the driver's seats of automobiles, trucks or buses traveling our highways. A glance at the table will serve immediately to point up the divergence of opinions, the frequent importance of "individual consideration" for each case, and, consequently, again the importance of the physician in the whole accident prevention effort.

Thus, although many with experience and authority have frequently expressed the opinion that there are now inadequate factual data to determine accurately which specific organic factors in accident causation are important, there is general agreement that these factors do exist. Table I shows some of the importantly considered ones. If some selection of drivers for safety is to be accomplished at all, and it cannot be done by simple screening methods, it must follow that an

(Continued on Page 1164)

Use of Chemical Tests for Intoxication in Michigan Law Enforcement

By C. W. Muehlberger, Ph. D.
Lansing, Michigan

ALTHOUGH the state of Michigan has a worldwide reputation as the home of the automobile, it lags definitely in highway safety. Last year over 1700 citizens lost their lives on Michigan's highways. Only ten states (mostly in the mountainous West) have higher death rates from highway accidents.[1] But this does not tell the most tragic part of the story: the greatest single cause of death in school-age children of Michigan (ages five to nineteen years) is motor vehicle accidents.[2]

To what extent does alcoholic liquor play a part in producing this ghastly toll on our highways? Where careful systematic studies have been made, it has been shown that there is a remarkable degree of correlation between alcohol in the blood and death on the highway. Investigation of 246 consecutive violent deaths in Westchester County, New York[3] showed that 46 per cent of all deaths from automobile accidents involved the drinking of alcoholic liquor. More recent studies by the Delaware State Police[4] have shown that during 1956, 59 per cent of all fatal highway accidents involved a driver or an adult pedestrian who had been drinking. Similar values were obtained in Maryland in a survey conducted by the office of the State Medical Examiner.[5]

Over a long weekend—such as Memorial Day, 1957 (four days)—we can safely estimate that twenty citizens will lose their lives on Michigan highways and nine of these will involve a driver or a pedestrian who has been indulging in alcoholic liquor.

Now there is no statute making it unlawful to drink and drive. One only is forbidden to operate a motor vehicle on the public highway while "under the influence" of intoxicating liquor,* and by Supreme Court interpretation† such a condition occurs as soon as the alcohol "impairs the faculties of perception and judgment." This point is reached long before a person becomes "drunk" in the lay interpretation of the term. The Supreme Court of Arizona has defined the term somewhat more explicitly:

> The expression "under the influence of intoxicating liquor" covers not only all the well-known and easily recognized conditions and degrees of intoxication, but any abnormal mental or physical condition which is the result of indulging in any degree of intoxicating liquors, and which tends to deprive him of that clearness of intellect and control of himself which he would otherwise possess. If the ability of the driver of an automobile has been lessened in the slightest degree by the use of intoxicating liquors, then the driver is deemed to be under the influence of intoxicating liquor. The mere fact that a driver has taken a drink does not place him under the ban of the statute unless such drink has some influence upon him, lessening in some degree his ability to handle said automobile.**

As in any other type of criminal offense, it is incumbent upon any law enforcement agency to establish the guilt of a person charged with "driving while under the influence of intoxicants" beyond a reasonable doubt. In fact, one practically requires that the law enforcement officers make a medical diagnosis in order to establish the validity of their complaint. Merely to observe an erratic or reckless driving pattern, smell the odor of alcoholic liquor on the breath of the driver and to note evidences of impaired muscular coordination as indicated by uncertainty of step, faulty balance, slurred or blocked speech are not always sufficient to provide convincing proof "beyond a reasonable doubt." Interrogation as to illness or injury, disability, taking of medicines prescribed by a physician, fatigue, etc. may assist in establishing the validity of the officer's complaint, but there may still be left a doubt, which some might consider to be a reasonable one.

For years, it has been recognized that, within limits of human variability, the concentration of alcohol which is circulating in a person's blood

Dr. Muehlberger is Toxicologist at the Division of Laboratories, Michigan Department of Health, Lansing, Michigan.

*Compiled Laws of Michigan, 1949, Section 256.303.
†People v. Townsend, 214 Mich. 267 (1921).
**Steffani v. State, 42 Pac. (2nd) 615 Arizona 1935.

stream and which is furnishing alcohol to the brain and other nerve centers, is a determining factor in measuring the extent of intoxication. Some years ago the American Medical Association appointed a special Committee to Study Problems of Motor Vehicle Accidents. After considerable study and investigation, this Committee advocated the use of chemical tests for intoxication and stated:

"The committee, of course, reiterates its previous statement that the percentage of alcohol in the blood is a reliable index of the degree of intoxication, especially when considered along with external symptoms of intoxication. There is listed in brief form the chemical standards for the legal interpretation of "under the influence of alcohol" in terms of the percentage of alcohol in the blood or its equivalent in other body materials:

1. Below 0.05 per cent alcohol in the blood: no influence by alcohol within the meaning of the law;
2. Between 0.05 and 0.15 per cent, a liberal, wide zone: alcoholic influence usually is present, but courts of law are advised to consider the behavior of the individual and circumstances leading to the arrest in making their decision;
3. 0.15 per cent: definite evidence of "under the influence," since every individual with this concentration would have lost to a measurable extent some of that clearness of intellect and control of himself that he would normally possess.

These standards have proved themselves to be fair and practical. The zone below 0.05 per cent vindicates the nondrinking or temperate driver, the wide middle zone considers tolerance and idiosyncrasy, and the highest zone indicates alcoholic influence regardless of unusual tolerance. The chemical tests can be performed with remarkable accuracy and are the best means of proving alcoholic influence. It is necessary, however, that care be used in making the tests and that those who run the analyses have sufficient experience and are able to show that they can perform the test accurately.[6]

Thus biochemical analysis to determine the amount of alcohol circulating in the blood stream of an individual has come to serve as a very important objective guide to the law enforcement officer in making certain that the behavior and impairment which he observes is actually due to alcohol and not to some other cause.

Since 1937, court cases involving chemical tests for intoxication (analyses of blood, urine or breath) have been accepted in the courts of at least thirty states, and in over 200 instances[7] conviction has been appealed to higher (appellate) courts. To summarize these 200 cases reviewed by the higher courts, I may say that in no instance has a conviction of driving while under the influence of intoxicants been reversed when the following elements have been established:

1. The subject was in the custody of one who was empowered to make an arrest or who did formally make an arrest.
2. The subject submitted to the test without compulsion of any kind.
3. The test performed was one which was generally recognized as reliable.
4. The material analyzed was properly identified as that obtained from the subject.
5. The test was made by a skilled and qualified person employing chemicals and techniques which he knew of his own knowledge to be accurate.
6. There was expert testimony to interpret the significance of the results of chemical analysis in terms of "alcohol influence."

Our own State Supreme Court has ruled on only one case involving chemical tests for intoxication.† In this case, a breath test employing the Harger Drunkometer was administered to the defendant. In reversing the conviction, our Supreme Court stated: "There is *no testimony in the record* that there is general acceptance by the medical profession or general scientific recognition of the results of a Harger Drunkometer test as accurately establishing the alcoholic content of a subject's blood and *thus the extent of his intoxication*" (italics added). Since that time (1949) at least twenty-three convictions in ten states have been uniformly upheld when it was shown that the Drunkometer breath test was properly made by a qualified person and that expert testimony was provided concerning the test's reliability.

Ever since 1941 the results of chemical analyses of blood specimens obtained from subjects who submitted voluntarily have been admitted as evidence in trials in Michigan involving driving while under the influence of intoxicants, negligent homicide or manslaughter. During the last ten years the laboratory of the Michigan Department of Health has made 6,800 such analyses of blood for law enforcement agencies. There is no question concerning admissibility of such evidence. The argument that employing a person's blood to secure evidence which might be used against him is violative of the Fifth Amendment that "no person charged with a crime should be compelled

†People v. Morse, 325 Michigan 270 (1949).

to be a witness against himself" has been shown to be false.*

Blood tests present certain practical difficulties. Some persons balk at the idea of having a needle thrust into their vein. Arrests for so-called "drunk driving" frequently occur late at night and in sparsely settled areas. The problem of securing the services of a willing physician, nurse or medical technologist who is skilled in taking blood specimens is not simple. Furthermore, the taking of a specimen may result in the requirement that such a person might be served with a court summons to testify at a subsequent trial. After several such experiences, only the most public-spirited physician can be prevailed upon to take blood specimens in cases involving suspected intoxication.

To obviate the difficulties attendant upon engaging medical personnel, indirect methods for estimating the blood alcohol concentration have been resorted to. These involve the measurement of the alcohol content of urine or breath.** They are based upon the physiologic fact that the concentrations of alcohol in the urine and in the alveolar breath are proportional to the concentration of alcohol in the blood which is being supplied to the kidneys and lungs. Such tests are only slightly less reliable than blood as an index of alcohol intoxication and, for purposes of confirming (or denying) an opinion based upon objective indications of intoxication, they are amply accurate. One must remember that in a factor such as alcohol influence which, in humans, varies from .05 per cent to .15 per cent alcohol content of blood, variations of .01 per cent or .02 per cent are not of material clinical significance. Breath tests certainly help differentiate between the driver who actually had the proverbial "two beers" and the one who had two too many.

*See U. S. Supreme Court ruling in upholding the conviction in Breithaupt v. Abram (352 U.S. 432 (1957), abstracted in J.A.M.A. 164:406 (May 25) 1957. This position is also held by our own State Supreme Court. See People v. Placido, 310 Mich. 404 (at page 409) (1945).

**To reliably indicate the blood alcohol concentration, breath specimens should not be taken until at least fifteen minutes after the last drink. This insures that any alcohol in the breath comes from the subject's lungs, and not from residual liquor which might remain in the mouth and throat from the last drink. For recognition of the reliability of breath tests, see editorial "Chemical Tests and the Drunken Automobile Driver," J.A.M.A., 154:1279 (April 10) 1954.

In a number of Michigan's cities, various breath or urine testing procedures are being employed by law enforcement agencies. Detroit police use the Drunkometer breath test[8] as a

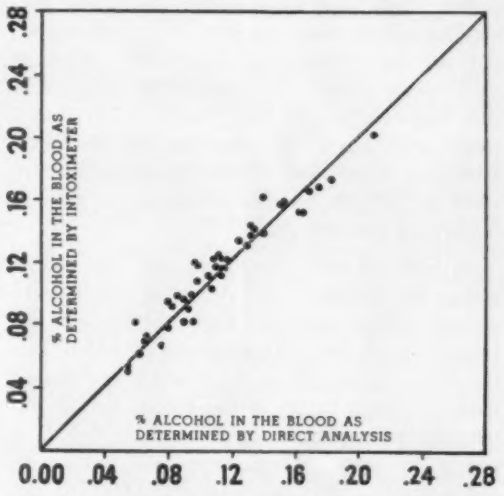

Fig. 1. Correlation of blood alcohol levels obtained by direct blood analysis and by breath analysis with the Intoximeter.

Fig. 1. Correlation of blood alcohol levels obtained by direct blood analysis and by breath analysis with the Intoximeter. From: "Evaluating Chemical Tests for Intoxication," National Safety Council, Chicago, 1953 (reprinted by permission).

screening procedure to weed out the temperate drinkers from the more indulgent variety. Kalamazoo also uses the Drunkometer for screening purposes and in persons who show .15 per cent blood alcohol values, a urine specimen is obtained and used for court testimony. Grand Rapids uses a new breath testing device known as the "Breathalyser" for screening purposes. When a driver flunks the Breathalyzer test (indicates a blood alcohol value of .15 per cent or more) he is asked to submit to a blood test and this is employed in the court hearing. Many other cities—Saginaw, Battle Creek, Benton Harbor, Midland, Lincoln Park, Niles, Owosso, Grosse Pointe Shores, Holland, River Rouge, and Birmingham—use a portable breath testing device known as the Intoximeter.[9-10] In this test, the law enforcement officer merely obtains the breath specimen which is permitted to pass through the absorption tubes of the test unit. The unit is then sealed, returned to the laboratory and analyzed by a skilled chemist. Simultaneous tests of both blood and breath conducted at Michigan State University have shown Intoximeter values to be remarkably ac-

curate in establishing the blood alcohol level. (Fig. 1.)

In court cases, the Intoximeter breath test has been widely used in southwestern states (California, Texas and Oklahoma). Of twenty convictions which were appealed to higher courts, only one was reversed, and that because of failure to properly identify the particular Intoximeter unit employed in the test. Nearly 5,000 Intoximeter units have been processed by the Crime Detection Laboratory of the Michigan Department of Health for law enforcement agencies during the past ten years.

As with all new procedures, one will always find a few skeptical and dissenting voices, even among medical scientists. Early objections to the Harger breath test ("Drunkometer") which were the cause for reversal in the Morse case stemmed from erroneous values of the blood: breath distribution ratio of alcohol published by Yale University scientists. These have been retracted[11] and it is now generally agreed that 2,000 volumes of alveolar breath will contain the same quantity of alcohol as will one volume of blood.

While many attorneys object to the use of breath tests in establishing the degree of alcohol influence, only one source of criticism arises from the field of medical science in our state. A Saginaw pathologist[12] has been employed consistently by a prominent defense attorney to attack the validity of breath tests in general and the Intoximeter procedure in particular. In court, such criticism loses much of its weight when it is established in cross examination that this particular pathologist has never made a single test with the Intoximeter and has reached his adverse conclusions only by his reading of some of the literature in scientific journals.

The use of modern methods of crime detection has become almost imperative if we are to preserve our basic government, which is founded upon "liberty under law," and chemical tests for intoxication do serve to reduce the guesswork in eliminating those who attempt to drive on our highways while impaired by liquor. These tests not only help to convict the driver who is under the influence of intoxicants, but, what is more important, they serve to exonerate the driver who really has only taken two beers, who is unfortunate enough to have been involved in an accident and whose breath smells of alcoholic liquor.

In upholding a sentence of involuntary manslaughter where a blood specimen was taken from a defendant while semiconscious and which specimen, on subsequent analysis was found to have .17 per cent alcohol, the U. S. Supreme Court said (Breithaupt v. Abram):

> The test upheld here is not attacked on the ground of any basic deficiency or of injudicious application, but admittedly is a scientifically accurate method of detecting alcoholic content in the blood, thus furnishing an exact measure upon which to base a decision as to intoxication. Modern community living requires modern scientific methods of crime detection lest the public go unprotected. The increasing slaughter on our highways, most of which should be avoidable, now reaches the astounding figures only heard of on the battlefield. The States, through safety measures, modern scientific methods, and strict enforcement of traffic laws, are using all reasonable means to make automobile driving less dangerous.
>
> As against the right of an individual that his person be held inviolable, even against so slight an intrusion as is involved in applying a blood test of the kind to which millions of Americans submit as a matter of course nearly every day, must be set the interests of society in the scientific determination of intoxication, one of the great causes of the mortal hazards of the road. And the more so since the test likewise may establish innocence, thus affording protection against the treachery of judgment based on one or more of the senses.

In a recent action,[13] the American Medical Association's Committee on Medical Aspects of Automobile Injuries and Deaths pointed out the seriousness of the menace of drinking drivers and has recommended that the blood alcohol ceiling be lowered from 0.15 per cent to .05 per cent. Until such time as our legislators can be convinced that .15 per cent is too high, it seems questionable if this stricter limit could be enforced. Perhaps in the interest of saving 1,700 lives per year in Michigan, we might be justified in taking more drastic measures than are now being employed.

With the current trends toward the use of pseudo-science in advertising all types of commodities, tooth pastes, beer, cigarets and arthritis remedies, one is likely to look upon all scientific solutions of our problems with a jaundiced eye. Lawyers and judges are very properly skeptical and conservative with respect to the uses of science in the court room. In the interest of removing the hazardous driver from our highways

(Continued on Page 1197)

Drugs and Driving

By Seward E. Miller, M.D.
Ann Arbor, Michigan

MOTOR vehicle accidents present acute medical problems. Our present way of life is impossible without motor vehicles in great numbers. Not only are large amounts of goods from raw materials to finished products transported by motor vehicles, but daily most individuals travel by some form of motor vehicle transportation to school, work, social activities, or to purchase necessities.

Although much remains to be accomplished, progress has been made in improved highway construction. Motor vehicles, in addition to becoming more numerous, have become more powerful and more maneuverable. With expert or inept operation, they dart in and through congested traffic areas with great ease. Rapid acceleration, deceleration, sharp turning, and great ease of maneuverability require increasing skill, judgment and quick decision upon the part of drivers if accidents are to be avoided. Increased driver training and public education have helped some toward improving the quality of driving upon our highways; however, there has been no structural or functional improvements in the sensory and reaction time mechanisms of man. In fact, with split-second reaction time required for safe motor vehicle driving, there is just cause for concern over the factor of "human performance" in relation to motor vehicle accidents. In this area of "human performance," physicians have a solid responsibility and a real contribution to make toward accident prevention.

The influence of drugs upon motor vehicle driving abilities is a significant factor in the "human performance" element of motor vehicle accidents. Physicians above all others best are able properly to advise in this area. Numerous common drugs produce in some individuals various reactions impairing their ability to drive a motor vehicle. The degree of impairment varies tremendously depending upon the severity and type of reaction. Physicians administering drugs known or likely to produce reactions impairing sensory, mental or physical functions have a clear obligation fully to inform their patients concerning this matter.

In addition, some patients experience unusual reactions to drugs that ordinarily do not impair driving ability in most individuals. Physicians ever must be alert to this possibility and be on the look-out for unusual reactions, allergic or otherwise that impair sensory, mental or physical functions making it unsafe to drive. Such patients also must be firmly advised not to drive a motor vehicle until the hampering symptoms have been eliminated. The time required for recovery is astonishingly long for many drugs. Some allegedly "short acting" hypnotics may cause impairment as long as twenty-four hours from a single dose.

Several groups of drugs rather universally impair driving ability in one manner or another. The more important of these drugs are discussed.

Central Nervous System Depressants

Analgesics (narcotics). — The drowsiness induced by analgesic drugs sufficiently damages sensory functions and reaction time that patients so afflicted should not drive a motor vehicle. In addition, morphine, its derivatives and the synthetic narcotics such as Demerol, cause varying amounts of euphoria, inability to concentrate, apathy, dimness of vision and rapid flow of uncontrolled thought. Patients under the influence of these drugs should not drive a motor vehicle. Individuals habituated to the use of narcotics should not drive a commercial or passenger transport vehicle. Ordinarily, these individuals are not drowsy or euphoric, so unless experiencing withdrawal symptoms may drive a private motor vehicle.

Hypnotics and Sedatives.—These drugs not only depress central nervous system activity, producing drowsiness and sleep, but also they may produce motor and sensory changes. No doubt small doses of some of these drugs quieting a highly excited and "jittery" patient actually temporarily may improve his driving ability. However, this

Dr. Miller is Director, University of Michigan Institute of Industrial Health.

is not the usual circumstance, therefore it is best to advise patients taking hynotic doses of these drugs not to drive a motor vehicle. Of course, a barbiturate addict is incapable of driving a motor vehicle. Patients receiving regular mild sedation who experience no drowsiness may drive a motor vehicle. Patients receiving barbiturates and local anesthetics for minor surgery should not be permitted to drive a motor vehicle until fully recovered from the effects of such drugs.

Tranquilizing Drugs (meprobamate, chlorpromazine, reserpine, et cetera).—During the initial period of administration, some drowsiness frequently is experienced. Also, from large doses, the accompanying hypotension may occasionally produce short episodes of faintness or giddiness. Therefore, during the initial phase of dosage adjustment, patients should not drive a motor vehicle. At all times, these patients should be carefully observed for symptoms of drowsiness or faintness. Patients stablized on a maintenance dosage of these drugs, who are without symptoms of drowsiness or episodes of faintness, may drive a private motor vehicle but not a commercial or passenger transport vehicle.

Central Nervous System Stimulants

Benzedrine, et cetera.—Although these drugs temporarily increase alertness and efficiency, large doses in some individuals may produce headache, agitation, irritability and a decreased ability to concentrate. In all individuals, a period of fatigue and depression follows the initial stimulation. An individual may take one of these drugs to prolong the period of alert driving for a period of two hours but not longer. After this two-hour period, the patient should cease driving. The dosage should not be more than 5 or 10 mgs. and should not be repeated that day.

Antihistamines and Drugs Preventing Motion Sickness

There is great individual difference in reaction to these drugs with dizziness and/or drowsiness occurring fairly frequently. Moreover, it is unpredictable in which individuals or with which preparations dizziness and/or drowsiness will occur. Patients under these medications should not drive a motor vehicle until it has been established by prior trial that they do not experience dizziness or drowsiness to the specific preparation administered.

Anti-infective Agents

Streptomycin.—In full dosage, undesirable reactions of nausea, loss of sense of balance with dizziness, ringing in the ears, and deafness may occur. A patient developing such symptoms should not drive a motor vehicle. Patients receiving over 1 gm. of streptomycin daily should be watched carefully for the development of any of these adverse symptoms.

Sulfa Drugs.—Patients receiving these drugs should be warned that if they develop any drowsiness or dizziness, they at once should cease driving a motor vehicle.

Hallucinogens

Marijuana, et cetera.—These drugs have singular abilities for changing normal emotional reactions even causing individuals to become oblivious or indifferent to their surroundings. Individuals under the influence of these drugs should not drive a motor vehicle.

This brief review of the common types of drugs impairing the ability of an individual to drive a motor vehicle would not be complete without another admonition. Frequently, individuals under the influence of a drug may realize his driving ability is impaired so he attempts to compensate by driving slowly and unduly cautiously. This unusual behaviour frequently constitutes a significant traffic danger. Therefore, physicians should not attempt lightly to discharge their clear responsibilities in this area by the mild admonition to drive slowly or drive carefully. We must face the situation squarely and firmly advise these patients under no circumstances to drive while under the influence of drugs likely to impair their sensory, mental or physical ability to drive a motor vehicle safely.

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(Continued on Page 1136)

The Highway Accident Problem in Michigan and What Has Been Done About It

By Gordon H. Sheehe
East Lansing, Michigan

LAST year, in Michigan, motor vehicles traveled more than 28 billion miles. Undoubtedly, there was opportunity for millions of collisions which did not occur. In spite of hazardous weather, roadway and light conditions—oftentimes in spite of poor intersection and open roadway design and maintenance—thousands of potential conflicts were avoided for every collision that occurred.

Perhaps we should conclude that Michigan motorists are doing well, that we are beating the laws of chance when only 300,000* or so collisions result. But long ago we learned that accidents are avoidable. We have learned that accidents are not necessary in spite of the great exposure traffic can generate. Records of some drivers prove it is possible to travel the highways under adverse conditions for years and still avoid being involved in an accident.

Study of each accident reveals that it would not have happened if a pedestrian or one or more drivers had not failed to do the right thing. The error most often involved is a violation of law. Such repeated human failure brings about tragic losses. In Michigan, during 1956, alone this meant 1,747 killed. This was a reduction from the horrible toll in 1955 of 2,016 killed. Annually, more than 60,000 are injured in Michigan traffic accidents. The economic loss is conservatively estimated to be in excess of $200 million a year.

This unnecessary traffic toll is all the more tragic when we realize that many of those killed, those injured, and those sustaining economic loss were entirely free of blame. They were victims of another's negligence.

Statistics do not show the sad effect upon the families of those who were killed or seriously injured. The traffic accident toll includes heartaches and shattered family plans for the future. Frequently, children are bereft of father or mother love and guidance. Often, poverty results when the family breadwinner is the victim.

Each of the drivers involved in this awful toll did not expect to be in a traffic accident and did not want to have one. Each was confident of his driving ability and judgment. Yet each of Michigan's 300,000 crashes in 1956 was due in part to either a pedestrian or driver (and in some cases more than one driver) doing something definitely unsafe and, in most cases, illegal.

Each became involved because of one or more human weaknesses; inattention, impatience, weariness or drugged senses, ignorance of the chances of a collision, unawareness of the existence of a hazard, and expectation that others will save the situation for them by taking evasive action.

A false sense of security is developed in most drivers who have not yet had a traffic accident even though they repeatedly indulge in illegal driving actions. They have "gotten away with" bad driving long enough to become convinced that it is not unsafe driving. Unfortunately, this false sense of security isn't always destroyed when an accident does happen to the driver. Too often he rationalizes the crash as the other fellow's fault.

In fairness to drivers and pedestrians, it must be admitted that the traffic stream in which they must move contains many hazards which imperil their safety. Michigan has more than 100,000 miles of streets, and state and county highways. Many miles of these have built-in hazards because they were designed for traffic of a bygone day. Even our improved highways, with but a few exceptional miles, have countless intersections at grade at each one of which conflicting traffic can collide. Every private driveway or access to roadside business adds to the potential danger of collisions. Pedestrians crossing streets and highways also add to the exposure to conflict. To these millions of friction points in our road network must be added the oftentimes inadequate maintenance of road surface and shoulders. And then still another handicap is frequently added when rain and snow make the surface more difficult to traverse with-

Mr. Sheehe is Director of the Highway Traffic Safety Center, Michigan State University. East Lansing.

*Slightly less than 200,000 traffic accidents were reported but it is conservatively estimated another 100,000 occurred which were not reported.

out loss of vehicular control. On almost all of this street and highway network, opposing streams of fast moving traffic are separated by a foot or so of "no man's land," sometimes marked by a center line.

This is the facility upon which 3,500,000 Michigan drivers operate the 3,000,000 vehicles registered in this state. Thousands of these vehicles are in such defective condition that their drivers and other motorists are jeopardized.

Engineering can make many present high accident locations safer. Limited access and divided highways can lessen the chances of collision. Elimination of obstructions to view at intersections, more street lighting, better maintenance, and improved traffic control devices can help make streets and highways safer. Better city and suburban planning in conjunction with street and highway development can prevent conflicts in the movement of traffic.

But engineering improvements are far from the total answer. Collisions still occur on the most improved highways and at intersections where the best present day engineering "know how" has been applied.

In addition to engineering improvements, it remains for all concerned to counteract the pedestrian and driver weaknesses mentioned earlier. This involves two major undertakings: education and discipline. When drivers and pedestrians will not exercise self-discipline, the deterrent effect of enforcement and driver license control must then be used.

These conclusions are not new. Enforcement, education, and driver license control have long been acknowledged as necessary methods of stopping the careless acts of pedestrians and drivers. This is true whether the human failure is caused by ignorance or willfulness.

Everyone will agree that present enforcement, education, and driver license control activities are somewhat effective. Without them the accident toll would be much worse. But how many will agree that present enforcement, education, and driver license control methods are *not* achieving anywhere near the maximum effect possible? If presently known methods were utilized fully, administered efficiently and with vigor, and if public acceptance and support were fully developed, we would see a one hundred per cent improvement in driver and pedestrian behavior. Their increased knowledge, skill, understanding, and acceptance of regulations and discipline would be reflected in a sharp decrease in accidents.

Responsibility for improvement in driver and pedestrian knowledge, understanding and in their acceptance of discipline, belongs to officials, politicians, educators, and lay group leaders. Yet many of these responsible people evidence far too much apathy or interest in other ends than accident prevention. They are irresolute and pliant. They lack knowledge and fail to accept leadership responsibility.

It is not enough to just decry the stupidity and carelessness of the driver and pedestrian. They need help, guidance and control which must come from public information media, and from governmental, educational and lay group leaders and administrators.

Increase in application of known methods, acceptance of responsibility and improvement in administration and leadership, however, will still not be the complete answer. Better ways of educating and influencing drivers and pedestrians must be found. More research and experimentation must be undertaken to improve present methods. Some of the ablest traffic administrators and educators are very concerned about the small impact their best efforts produce.

Many enforcement leaders, for example, are quite aware that, though the fatal accident rate in their jurisdiction has been decreased, the total accident rate has kept pace with the increase in travel. Enforcement has not successfully diminished illegal driving and walking acts if the total accident record is a fair index. These conscientious people are asking how enforcement can be improved so that it will achieve its objective of obtaining greater driver and pedestrian compliance with safety laws.

Driver education people want to know how to improve driver education methods. It is true that the accident rate of teen-agers who have taken a driver education course is decidedly lower than that of those who have not. Still many who have taken such a course do have accidents subsequently. Driver educators believe better results can be obtained when research develops better methods of driver education.

Driver license administrators say they do not know what to do for many problem drivers, those who have accidents frequently or receive many traffic tickets. Administrators report that suspension and revocation of license is not the answer

in a majority of the cases. How to get at the underlying causes of bad driving and how to rehabilitate problem drivers is a major problem today in preventing accidents.

So far, I have been discussing accidents, one of the important manifestations of our traffic problem. But equally obvious manifestations of our inability to properly administer street and highway traffic are congestion and insufficient parking facilities. These shortcomings cannot be blamed upon the driver and pedestrian. But, as with most accidents, the basic causes of traffic congestion and inadequate parking are human failures. Economics also play a part, admittedly. Off-street parking facilities and street and highway construction cost a great deal.

Much congestion can be decreased, however, if more efficient use is made of existing streets and highways. Many effective means can be used to improve vehicle traffic movement, such as: one-way streets; elimination of curb parking, at least at rush hours; elimination of turns; establishment of by-passes and thru streets; lane markings; special routes for truck traffic; proper timing and synchronization of signal systems.

Why are these methods and devices not used more extensively? In many cases those officials who should propose the improvements do not do so because they are unaware of what could be done. They have no training in traffic flow planning and operations, nor is a trained traffic engineer employed in their city or county. In other places proposed changes designed to better traffic movement are opposed and effectively stymied, sometimes by a single individual, more often by a group. This opposition is often due as much to shortsighted, selfish motives as to ignorance of the benefits to be derived from the change.

Correction of all these causes of unsafe and inefficient traffic movement is a huge task of public administration on the one hand and human relations on the other. Basically the problem is one of education, politics and economics.

Before much improvement can be expected, drivers and pedestrians must be educated in what is safe and unsafe behavior. Since education of all is undoubtedly impossible, at least to the degree necessary, some form of regulation and control must be exercised. This requires the consent of the governed, the enlightened understanding of the majority of voters, the resolute action of legislators, the activity of regulatory agencies, et cetera. Education, regulation, road building, and other pertinent matters cost money and involve public policy—introducing the elements of economics, politics, public and official understanding. These in turn require public information and education, as well as training of official agencies' personnel.

To say that traffic improvement is largely a matter of human relations, finance and effective public administration is not enough. To prevent traffic accidents:

1. We need to train more career people for traffic administration. Safety is a by-product of good street and highway administration.

2. We need to improve the traffic knowledge of many existing officials and traffic workers. This includes mayors, city managers, county supervisors, police, sheriffs, school teachers and many others.

3. We need to improve the individual driver's and pedestrian's understanding of traffic hazards. They must know how to recognize hazards in time and how to keep out of trouble.

4. We need to develop greater respect for laws and regulations, to engender more self-discipline in our people, especially when they are driving.

5. We need to build public support for firm, impartial enforcement and driver license administration. The public must desire more stringent enforcement methods rather than oppose the apprehension and conviction of violators.

6. We need to encourage more selfless, co-operative group action to get the teamwork necessary, especially at the local levels of government.

7. We need to obtain facts as a basis for plans and action.

8. We need to discover and develop better methods of driver education, enforcement, problem driver rehabilitation, etc., through research.

9. We need to have traffic engineering science used on all our highways, not just on the truck line system, and in all our cities.

10. To do these and many other things which will be required, we must more completely inform all Michigan people about traffic problems, about what is needed to solve them, and about what they can do to help. In the final analysis, the people as voters, taxpayers, pressure groups, or jury members control the rate of progress we shall make. An informed, interested public will see that the needed remedies will be found and financed.

Definite progress has been made in Michigan during the past two years. In the summer of 1955, Governor Williams provided the leadership for an all-out traffic accident prevention program. The Legislature, in its November, 1955, special session, aided tremendously by appropriating funds for 200 additional state police, enacting the state subsidized universal driver education law requiring those under eighteen years of age to pass a driver

education course before obtaining a driving license, establishing the Highway Traffic Safety Center at Michigan State University, and passing a maximum speed limit for rural areas.

In subsequent sessions, the Legislature has appropriated funds for 150 additional state police officers, and enacted legislation providing for county traffic safety schools for problem drivers and others who wish to attend them.

Enforcement by all the police agencies and courts of the state has increased substantially. The Central Driver Record Files of the Division of Driver and Vehicle Services of the Secretary of State's office have been improved substantially. The driver improvement activity of that Division has increased 100 per cent.

Driver Education is now being taught in all the high schools of the state. Hundreds of teachers needed for this program have taken the initial qualifying Driver Education Teacher Course.

Newspapers, radio and television stations have provided more public safety information than ever before.

The Highway Department's road building program has been increased substantially following the passage of the 1956 Federal Highway Act.

The Highway Traffic Safety Center at Michigan State University has assembled a large competent staff and is bringing the entire resources of the University to bear upon the traffic problem. The five-fold activity program of the Center includes:

1. Educating career people for Highway Traffic Administration in undergraduate and graduate courses. Driver Education teachers, highway and traffic engineers, safety organization managers, traffic police administrators are being educated.

2. Training those now holding responsible positions in highway traffic administration. Scores of short courses and conferences have been held for many different groups, such as, engineers, police, judges, womens' groups, teachers, and school bus drivers.

3. Research on many traffic problems for which new or better solutions are needed. Faculty members of many schools and departments of the University are engaged in individual and group research.

4. Field assistance in response to requests of local officials and citizen groups. Qualified resource people from many of the University's schools and departments are aiding cities and counties in solving their traffic problems.

5. Information and materials service. The "You Are The Jury" radio program is broadcast weekly on forty Michigan radio stations. A traffic film loan library comprising 130 different motion picture films is being used by groups throughout the state. A monthly newsletter has been started to provide up-to-date information. Speakers on many traffic subjects respond to requests of many different groups.

These are some of the steps Michigan has taken to decrease the terrible annual traffic toll. Many groups not mentioned in this résumé are contributing staff, time and money to the State's accident prevention program.

The total effort is succeeding. There were 269 fewer people killed in 1956 on Michigan highways than in 1955, and in the first seven months of 1957 there have been 155 fewer deaths than in 1956, in spite of increased travel.

Though this progress is encouraging, much more needs to be done. The number injured in traffic accidents has been decreased only slightly. The steadily increasing amount of travel in Michigan is constantly increasing exposure to accidents. The accident rate per 100 million vehicle miles must be decreased another 33 per cent, if Michigan is to keep from killing 2,000 in the year 1970.

DRUGS AND DRIVING

(Continued from Page 1132)

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Automotive Crash Injury Research in Michigan

By Robert M. Tracy
New York, New York

ON April 17, 1957, the Executive Committee of The Council of the Michigan State Medical Society endorsed an automobile crash injury research program sponsored by Cornell University Medical College, in co-operation with the Michigan Department of Health and the Michigan State Police. In this new study which was initiated on June 1, Michigan represents the thirteenth state to collaborate in an interstate data-collecting system.

The purpose of this program is to obtain reliable data on the frequency, nature and specific causes of injury to occupants in passenger cars involved in automobile accidents. In addition, these studies are producing medical statistics which promise to implement treatment of auto crash victims through more definitive knowledge of the nature and scope of the problem. Data from other co-operating states have formed a basis by which automobile manufacturers have made important design changes in many 1956 and 1957 passenger cars which are specifically engineered to provide occupant protection during accidents. Reliable information being obtained on the degree of protection offered by these items, which include the seat belts, springproof door latches, energy-absorbing steering wheels, padding, et cetera, is most encouraging.

The interstate research effort differs from previous highway accident studies in that it is seeking information on causes of injury rather than causes of the accident itself. Trauma produced in highway accidents is regarded as the mass disease which is as characteristic of our times as were bubonic plague, typhoid fever, and malaria in previous years. In studying this "disease," an epidemiologic approach has been utilized with the co-operation of medical societies, State Departments of Public Health and State Police groups of Indiana, North Carolina, Virginia, Maryland, Georgia, Connecticut, New York, Vermont, Pennsylvania Minnesota, Texas, Colorado, Arizona, California and Oregon. With carefully designed standardized data-gathering forms, the enforcement officers and the medical profession are contributing data from this "laboratory of the highways" to the Automotive Crash Injury Research group at Cornell, where a standard technique of evaluation and analysis is employed to identify the characteristics of the environment which produces trauma.

With the introduction by automobile manufacturers of new door lock designs, energy-absorbing steering wheels, specially designed energy-absorbing padding on the instrument panels and forward overhead structure, as well as safety belts, the epidemiologic approach can now also be used as an objective measuring device to determine the degree of reduction in both the frequency and severity of injury that these changes are providing. Studies of post-1955 automobiles involved in accidents already indicate, for example, that occupants of these cars are experiencing a 29 per cent reduction in risk of dangerous through fatal grade injury. A preliminary evaluation of improved door locks designed to decrease the incidence of ejection (commonest cause of injury in accidents) shows that, in the injury-producing accident study, post-1955 models experienced approximately 27 per cent less incidence of front doors opening during accidents than did pre-1956 models. A direct result was an approximate 50 per cent cut in the frequency of occupant ejection. Occupants of these newer model automobiles have been found to sustain nearly 30 per cent less dangerous through fatal grade of injury.

It has been demonstrated, also, that properly engineered and installed seat belts can provide a remarkable degree of protection. The most marked improvement was seen in the prevention of ejection and its associated injury risks. Although continuing studies are expected to increase the knowledge of the precise degree of added protection the seat belt may be expected to afford, present findings show that their use can reduce

Mr. Tracy is Supervisor, Field Operations, Cornell University Medical College.

injury rates somewhere within the range between 30 per cent and 60 per cent (depending on the type of accident and other factors).

Studies in Michigan are expected to represent an important addition to the interstate program in its continued effort to evaluate safety design changes and to produce data which can be useful as a basis for planning further safety design improvements. Standard statistical sampling techniques are employed involving the investigation of all injury-producing accidents in selected sampling areas. Individual areas are studied for periods of six months each and the Michigan study is scheduled for a tenure of at least two years. The accompanying illustration shows the areas currently under study. Mechanics of the program require that state police investigators fill out special reports for all injury-producing accidents in the shaded areas. In the larger sections, labeled "5" and "6", studies are confined to investigations of 1956 and 1957 model automobiles only. Following his investigation of the accident, the state policeman notifies the doctor or hospital having charge of accident victims that these cases come within the scope of the study. All physicians in these areas have been appraised of the study through letters from Dr. Arch Walls, President, Michigan State Medical Society. Hospital administrators and their staffs have received further instructions from Cornell field personnel.

Fig. 1. Michigan Sampling Plan, First Period.

Medical forms are brief and do not require much of the physician's time. Upon completion they are mailed to the Michigan State Department of Public Health to be matched with related police reports and special photographs illustrating car damage details and injury causes before forwarding to Cornell for analysis and statistical use. Earnest participation of the medical profession in this effort, which is aimed at solving one of the nation's foremost epidemiologic problems, is urgently requested. Unless the injuries of each person hurt or killed in the passenger car accident within the sampling areas is carefully recorded, the effectiveness of this study and the value of the subsequent data obtained may be seriously reduced.

These studies are sponsored by the Armed Forces Epidemiological Board through its Commission on Accidental Trauma, with funds supplied by the Surgeon General of the Army, by the Division of Research Grants of the United States Public Health Service and by grants of unrestricted funds by the Ford Motor Company and the Chrysler Corporation.

By collaborating with Automotive Crash Injury Research, the physician will be furnishing the basic medical data necessary to combat this epidemic problem. Only with valid medical data can this mass disease be successfully attacked.

Gastroscopy should be employed: (1) where routine studies fail to reveal a positive diagnosis of gastric diseases; (2) as a supplementary aid to x-ray diagnosis; (3) to follow the course of certain benign conditions which may become malignant.

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Traffic Accidents and Safety

Transportation of the Injured

By George J. Curry, M.D., F.A.C.S.

Flint, Michigan

THE AUTOMOBILE, like the atomic bomb, must be controlled. Trauma rates high as a killer. The automobile kills about 40,000 yearly and injures 1,300,000. It is the greatest cause of death in children up to the age of fourteen. The medical profession can unquestionably make a great contribution to traffic safety as a logical element of its work in the field of preventive medicine. This is a significant extension of the profession's more obvious and direct concern with the care of persons injured in traffic accidents. Public officials, professional traffic safety authorities, the automobile industry and other interested groups welcome the increasing participation of medical men in this field in all appropriate ways.

Few would deny that some of the most brilliant achievements of modern medicine lie in the field of preventive medicine. The medical aspect of traffic safety is in this category. There may come a time when the issuance of a driver's license will include a more detailed appraisal of the physical defects of the applicant.

The one and one-third million persons injured in traffic accidents become the direct responsibility of the medical profession. This responsibility is closely divided into phases. It must be emphasized, however, that the care of the injured person is basically a continuous process, from the time of sustaining the injury, to discharge, following rehabilitation.

Healing of tissue following an injury begins the first minute. Good immediate care and safe expeditious transportation of the injured become the first and very important phase in the care of these victims. The fate of the person and his injuries is often decided during this time. The quality of handling and transportation may be the deciding factor in whether a person with a relatively simple injury makes a full early recovery, or whether this simple injury is converted into a complex situation resulting in a long recovery period with permanent disability or even death.

A survey of the quality of transportation of the injured was made covering the years 1949-1953. Sixty-two cities, large and small were thus investigated. Fair to poor handling was found in 25 to 28 per cent. This information has been previously reported in published articles.

During the past five years there has been increasing interest directed toward improvement in transportation of the injured. Subcommittees on transportation of the injured have been active at all levels, national, state and local. These are part of the objectives of an educational program projected by the American College of Surgeons through its Committee on Trauma.

The immediate care and transportation of the injured is in the hands of the ambulance attendant. It seems logical, therefore, that concentrated attention should be in this direction. His education should be an important objective of any medical group. It is obvious that he should first be selected on the basis of good character and dependability. Special instruction can be easily arranged through the Red Cross courses anywhere. If this is not possible, special organized lecture and demonstration courses may be given by hospital house staffs and other medical groups. To maintain his interest and enthusiasm, regularly scheduled meetings should be held where definite transportation problems are reviewed. City ordinances requiring proficiency certification of ambulance attendants are increasing in number throughout the country. At present, there are fifteen in operation, with ten under planning.

The Flint Ordinance has been in continuous operation since 1949, first obtained in 1942, but discontinued during World War II because of help shortage. Marked improvement in the quality of transportation of the injured has resulted. A record of 27,000 ambulance transportation cases to the Emergency Receiving Department, Hurley Hospital, showed only seventy infractions. Flint

(Continued on Page 1141)

Dr. Curry is a member and past chairman, Subcomittee on Transportation of the Injured, Committee on Trauma, American College of Surgeons.

The Speeding Ambulance

By George J. Curry, M.D., F.A.C.S., and
Sydney N. Lyttle, M.D., F.A.C.S.

Flint, Michigan

DURING the past few years considerable criticism has been directed toward the speeding ambulance. Panic by the uninformed is behind the widely held fallacy that speed in getting an accident victim to the hospital is important. Prompt immediate care may be vital, but speed merely increases the injury and accident hazard. Dr. Basil C. MacLean, New York City Commissioner of Hospitals, has been quoted, "The average patient would get there soon enough by parcel post."

Since 1941, Flint, Michigan, has had an ambulance ordinance requiring ambulance attendants to be certified as to their proficiency in immediate care and transportation of the injured. However, even under the ordinance speeding was permitted whenever the drivers thought it necessary. This resulted in several ambulances racing to the scene of the accident. The last one to arrive usually left empty-handed.

During the summer of 1949, an ambulance ran a red light and collided with a convertible coupe killing the twenty-four-year-old ambulance attendant. Three weeks later an ambulance driver for the same company, traveling at an estimated seventy miles per hour, ran a red light and crashed into a tank truck. The driver was also killed.

A new program incorporating the following was then put into effect.

1. A central dispatching system under control of the police department assigns ambulances on all emergency calls.

2. The independent ambulance companies are assigned to specific zones. The morticians' ambulances serve as a second line of defense.

3. The ambulances are limited to a top speed of thirty-five miles per hour.

Opinions have been expressed by various groups regarding the necessity of speed in transporting the injured. The general impression among lay people is that speed is necessary in saving lives. The opposite view is expressed by some of the members of the medical profession who feel that the sirens should be removed from the ambulances, and all traffic and speed regulations should be obeyed even to the point of waiting for red lights.

An ambulance averaging thirty miles per hour would require ten minutes to travel five miles. To save five minutes, sixty miles per hour would be necessary. In 2,500 consecutive ambulance runs this time interval would not have influenced the course of a single injury.

Time trials under different traffic conditions were carried out over a 4.4 mile stretch of a usual ambulance route. An ambulance with the right of way should be able to travel this distance in less than ten minutes without speeding. The shortest trial, obeying all traffic laws, was thirteen minutes; the longest twenty-eight minutes. When this delay is added to that necessary for the ambulance to reach the accident scene, the travel time becomes significant.

A four-year-old child was apparently injured by the gear shift lever and sustained an open wound of the neck associated with bilateral pneumothoraces, and fractures of the thyroid cartilage, cricoid cartilage, and upper two trachial rings. The child was cyanotic upon admission to the emergency receiving department. Prompt measures restored the patient's airway, and she survived. The total elapse of time between the dispatch of the ambulance by the police department and the patient's arrival at Hurley Hospital was twelve minutes. The accident occurred a little over a mile from the hospital, and transportation was accomplished without excessive speed. Had the transportation time been increased by many minutes, it is probable that this child would not have survived. This is the only case in this series where a moderate delay could have resulted in death.

Of these 2,500 cases, twenty-seven persons were dead on arrival. Five of these died of fracture dislocations of the cervical spine with complete transection of the cord above the 4th cervical

From the Section for the Surgery of Trauma, Hurley Hospital, Flint, Michigan.

vertebra. Twenty died of severe craniocerebral, chest, and internal injuries. There was one strangulation by hanging and one drowning. None of these could have been saved by a speeding ambulance.

Thirteen persons expired in the emergency receiving department. These apparently died from head and chest injuries, although other multiple injuries were present.

Postmortem examinations performed on those who died of severe chest injuries revealed combinations of rupture of the diaphragm, fractures of the liver and spleen, lacerations of the aorta, inferior vena cava, and the heart. Those not autopsied presented external evidence of severe injury.

It is believed that none of these victims, who were dead on arrival or who expired in the receiving department, would have survived had their injuries occurred on the hospital door step.

In only forty-five persons was the time interval between that of the accident and the arrival at the hospital considered to be significant as far as the course of the injuries was concerned. In these cases, expeditious handling of the victims was desirable, but the speeding ambulance considered unnecessary. In nine of these accident victims a wild, weaving, siren-screeching ride to the hospital might have produced death or permanent invalidism. These included seven cases of multiple rib fractures associated with unstable rib cages and pneumothoraces, and two fracture dislocations of the cervical spine.

The other thirty-six victims were in severe states of shock at the time of their arrival at the hospital. The shock was produced by fractures of the liver and spleen in five cases, and multiple fractures of the skeletal system in eighteen, superficial lacerations in eight, and penetrating wounds of the abdomen and chest in four, and one burn. The degree of shock in any of these cases may have been increased by a rough ride in an ambulance.

In this series of 2,500 consecutive ambulance runs, haste in transporting the injured was unnecessary in 98.2 percent. There would have been no difference in the outcome of 2,455 patients had they been transported according to standard traffic regulations.

In 1.8 percent expeditious handling was considered necessary, but a speeding ambulance could have increased the severity of the injuries.

It is recommended that:

1. Ambulances in transporting the injured person should observe the local speed laws of the vicinity in which they are traveling.
2. They should retain the use of their sirens.
3. They should have the right of way in traffic.

The patient deserves a safe, expeditious ride to the hospital.

TRAFFIC ACCIDENTS AND SAFETY

(Continued from Page 1139)

ambulance attendants are required to carry cards indicating proficiency certification, at all times. They expire in one year and are reviewed following the annual meeting of all ambulance attendants, held in December. In addition, windshield stickers bearing the co-sponsors, American College of Surgeons and Flint Committee on Trauma, American College of Surgeons, are presented to attendants having a good record.

A chart bearing patient's name, age, sex, diagnosis, quality of transportation and ambulance attendant's name is kept in the Emergency Receiving Department, at Hurley Hospital. Three repeated infractions disqualify the attendant. Reinstatement occurs after re-examination and investigation. Ambulance inspection, for proper equipment, takes place at regular intervals, throughout the year, by the special instructor for ambulance attendants through the American Red Cross.

Recommendations:

1. Organized educational programs for ambulance attendants.
2. City ordinances requiring certificates of proficiency for ambulance attendants.
3. Hospital receiving department charts indicating the quality of transportation of each case.
4. Continuous interest in this important phase of the care of the injured person.

Whiplash Injuries

By Frank H. Mayfield, M.D.
Cincinnati, Ohio

Jack C. Griffith, M.D.
Battle Creek, Michigan

WE DISLIKE the term "whiplash injury," for it has come in many circles to imply knowledge of anatomic and physiologic disorders of the human neck that are not known. It is not unusual in semantics for words to undergo mutation; for example, the word "pituitary," which literally means "slime," has come to identify the master gland. And now "whiplash," which was introduced to describe the forces to which the neck is vulnerable, is in a sense becoming a master hoax. Diagnostically, it is no more definitive than is "headache" or "bellyache." Yet it occurs frequently in medical histories, particularly in connection with traffic accidents, and is quoted quite commonly in the courtroom. There seems to be a popular trend to catalogue under this title all unexplained symptoms which follow cervical trauma.

In our opinion, the term is used improperly if it does more than describe the nature of the force to which the patient is exposed. We would not infer, however, that patients whose necks are wrenched by whiplash or direct blow may not suffer disabling injuries. Indeed, we hope to present evidence that is quite to the contrary, for we share the view of Sir Edward Appleton, the noted physicist, who said in Cincinnati recently: "There must be something the matter with the man who goes to the doctor when there is nothing the matter with him." We would add that there is probably little the matter with the man who goes to his lawyer when there is something the matter with him—unless perhaps he has "legal mortis," an apt phrase employed in a recent issue of the *Virginia State Medical Journal*. We are not alone in realizing the extent to which "whiplash" is misused; yet this stock phrase has caught on so widely, that we cannot hope to abolish it from our vocabulary. The best we can do, probably, is to bend our efforts to restoring proper meaning to the term by defining some of the underlying disorders responsible for the symptom complexes it is used to describe. With this in mind, we would draw attention to certain features of the anatomy of the cervical spine that render this area more vulnerable to trauma than other parts.

Trauma to the cervical spine may be of sufficient severity that disabling symptoms are noticeable at the moment of impact. These symptoms may persist. They may arise from fracture, ruptured disc or torn ligaments and seldom constitute a difficult diagnostic problem. Experience is sufficient in cases of this type to indicate a definite line of therapy and also to form a prognostic estimate with reasonable accuracy. It is the patient who suffers what appears to be a mild injury, but who then becomes progressively disabled with headache, neck pain and/or arm and shoulder pain, and emotional instability that tests one's clinical judgment. It is this type of trauma, with delayed development of symptoms, that requires the most careful analysis, lest tissue changes that might respond to therapy be overlooked or lest the examiner by evincing concern either add to the anxiety of the injured or be duped into documenting the false claim of the malingerer.

Our general concept of pain transmission can be summed up very briefly: If a major noxious stimulus is applied to a sensory nerve, the pain is felt in the dermatome or segments supplied by that nerve. This is the case, for instance, with ruptured disc or fracture. But if a nerve receives repeated small stimuli (such as massage), each stimulus may not register clinically. After many such stimuli, however, the nerve becomes sensitized and mass response is initiated. This reaction results from the summation effect of subclinical stimuli. It is the chronic bombardment of peripheral nerve trunks due to mild massage that would appear to account for the pain referred into the head, neck and/or arm; vasomotor changes that are noted in the eyes, nose and ears; and the many subjective symptoms that appear to be referable to the brain.

In 1949, one of us (FHM) and C. R. Hunter presented the data from eleven patients who had undergone section of the sensory root of the second cervical nerve or who had had the greater occi-

pital nerve avulsed for hemicranial pain. These patients, for the most part, had been well until sustaining an injury in which the neck was forcibly wrenched. They gave a history of more or less constant discomfort post-traumatically in the suboccipital region on the side involved which they had come, over the months or the years, to accept as their normal lot. But upon this chronic discomfort, severe paroxysms of hemicranial pain were superimposed. Usually, the bouts of severe pain involved one side of the head, and always the same side. Occasionally, when an attack was most severe, the pain might spread to involve the entire head. Ordinarily initiating in the suboccipital region, the pain would radiate to the vertex, the temporal area and to the area about the eyes. The attacks tended to be sudden in onset, often occurring at night, and were associated with tearing of the eyes, flushing of the face, alteration of sweat, and (at times) occlusion of the nasal passage on the side involved. Some patients showed constriction of the pupil on the painful side. A few had lancinating pain in the face associated with these bouts. Most patients were conscious of numbness and tingling of the parieto-occipital area of the scalp. Some of them complained of vertigo and a sense of dizziness during severe paroxysms.

Our investigation of these operative cases was based upon certain unusual features of the anatomy of the upper neck. The first and second cervical nerve roots emerge behind the lateral articular masses. Posteriorly, the roots are not protected by pedicles and facets which elsewhere in the vertebral column complete the root canal. There is relatively little range of motion between the atlas and the occipital bone. And since the sensory component of C 1 is so rarely present, it is unlikely that this root often plays a part in the production of symptoms. The joint between the atlas and axis, however, is highly movable and the anterior primary ramus of C 2, even under normal circumstances, is subject to unusual stress. The posterior primary ramus of C 2 which continues into the scalp as the greater occipital nerve emerges between bony surfaces and is capable of being crushed or traumatized by any movement of the head which would tend to approximate these surfaces. Within the normal range of motion of the neck, the second cervical nerve probably is not vulnerable to trauma. It would appear, however, that if added force were applied to the neck when it was already at its limit of normal range, such as occurs with the usual whiplash injury, damage to this structure could occur. It appeared reasonable to assume that once traumatized, structural changes in the nerve sufficient to render it painful under otherwise normal circumstances might occur. Plausibility was added to this assumption by the fact that our observations following section of the root indicate that the area of supply of the second cervical nerve is greater than the textbooks record. Accordingly, when one considers this peculiar vulnerability of the second cervical nerve root to trauma, in connection with the fact that the second cervical nerve supplies sensation to the major portions of the scalp and overlaps considerably into the face area, it seems reasonable to assume that this structure may be responsible in certain instances for unilateral head and/or face pain.

The original study reported eight cases in which symptoms were initiated by trauma; these patients were relieved by surgical treatment and (as far as can be determined) have remained well. The three patients whose symptoms were not precipitated by trauma were not benefited; indeed, it must be acknowledged that their situation may have been aggravated by the surgery. At the present time, 108 patients have undergone section of the sensory root of the second cervical nerve; and thirty-six patients have had the greater occipital nerve avulsed. Some of these subsequently have had root section. Sixty of the 108 treated with section of the second cervical nerve are totally relieved and approximately one half of those treated by avulsion of the greater occipital nerve have been afforded temporary relief for a period of months. In certain instances, intraspinal section of the nerve root has also been necessary. Our overall experience with such patients has diminished the hope which we held at the outset that interruption of this nerve pathway might resolve the problem of the majority of patients who suffer with this syndrome. On the other hand, we are convinced that this is the source of pain in some patients who suffer with intractable unilateral head pain after trauma. It is our belief that section of the second cervical nerve root or avulsion of the greater occipital nerve can be undertaken with reasonable confidence that relief will follow in the patient disabled with post-traumatic intractable suboccipital and hemicranial pain, provided that prior to injury he was symptomless and

provided too that the following circumstances prevail: (1) pain and tenderness in the region of the second cervical nerve root and the greater occipital nerve, upon which are superimposed disabling bouts of severe pain, perhaps exaggerated by movements of the neck (particularly on looking upward) or by sleeping posture, and perhaps increased by emotional tension; (2) substantial reduction in pain sensation, as demonstrated by pinprick, over the area of supply of the second cervical nerve; (3) aggravation of symptoms by passive movements of the neck which tend to approximate the lamina of the first and second cervical vertebrae.

Naturally, the patient who is emotionally unstable before trauma is not immune to this syndrome; and consideration must also be given to the problem of the patient with a secondary anxiety state triggered perhaps by pain or hostility toward the employer or the driver of the second car involved in the accident in which he was exposed to injury. Such individuals, conceivably, might be motivated by a selfish desire for financial gain. It is not our intent to minimize or ignore their suffering. It is simply that no ready formula exists for dealing with them. That stanza from the *Rubaiyat,* "Which is the potter, pray, and which is the pot?" voices the dilemna, and it is not lack of sympathy or compassion for them that causes the clinician to leave such patients to their unhappy lot.

Evidence used to confirm our observations in reference to this syndrome is chiefly clinical. In only four patients in the series have x-ray studies of the atlanto-axial joint revealed any abnormalities. We have been able, however, to reproduce the symptoms listed above during operation performed under local anesthesia by stimlulation or traction upon the greater occipital nerve (if avulsion were being done). In our early cases, an attempt was made to gain information by stimulating the nerve root intraspinally while operating under local anesthesia. When the second cervical nerve was stimulated, pain was referred to the vertex and to the region behind the eye. When the third cervical nerve was stimulated, the pain was referred to the region about the ear and along the lower jaw. Pathological sections of the avulsed fragments of the greater occipital nerve usually have shown some fragmentation of the myelin and in one or two there has been fusiform enlargement of the nerve. Sections of the sensory root have not demonstrated sufficient organic change to be convincing.

When doubt is present as to the syndrome, avulsion of the greater occipital nerve is carried out rather than intraspinal section. It is our practice to follow the nerve deeply into the neck and then to pull it with the hope that the sensory fibers will be pulled out of the cord or at least out of the ganglion. This procedure also interrupts the motor fibers and leads to mild atrophy of the suboccipital muscles. Aside from this, however, no untoward effects need to be expected. Exceptions to the rule do exist; there have been occasional reports of paraplegia following this procedure. Perhaps this is a risk that must be run and it is debatable whether such isolated instances should deter the surgeon from performing avulsion. In cases where the patient has been relieved temporarily and subsequently the return of sensation causes the renewal of pain, we have then attacked it intraspinally.

It is not our practice, however, to operate upon all patients who present the findings described above. Fortunately, the symptoms of most patients in this group subside spontaneously or after reassurance, rest and head halter traction. It is possible that the newer tranquilizing agents may enable one to control the superimposed anxiety symptoms to the extent that we can make a more accurate appraisal in the future. We reserve surgical treatment for those patients whose symptoms do not respond to conservative measures. Avulsion is then resorted to, since it is not unlikely that most post-traumatic head pain may be transmitted in part at least through these nerves. It is no less likely that the head pain of the tension states also is transmitted through these structures. In the hope of determining more accurately the role of this root in all forms of hemicranial pain, we have operated upon some thirty patients with various types of pain involving one side of the head and/or face. With rare exceptions, surgery has been ineffective. Results have not been significantly different in the industrial group as compared to those patients whose injury could not possibly represent a source of financial gain to them.

Case Reports

Case 1.—M. L., a white woman, aged seventy-seven, was first admitted December 3, 1951, with a history of pain in the left mastoid region with radiation into the left jaw and forehead. Physical examination was com-

patible with the second cervical nerve syndrome. On December 4, the left greater occipital nerve was avulsed. The postoperative course was uneventful, and she was discharged on December 11 asymptomatic.

She remained asymptomatic until December, 1956, when following a fall in which she received a mild head injury, she had a recurrence of her pain. Again the pain began in the left mastoid region with radiation to the forehead. The pain was mild at the onset, but with time became progressively more severe. She was readmitted on March 7, 1957.

Physical examination, on admission, showed the left posterior neck and scalp to be tender to touch with marked tenderness over the greater occipital nerve. The scalp distribution of the greater occipital nerve showed hypalgesia to pinprick and there was the scar from previous surgery. On March 8, the greater occipital nerve which had regenerated was again avulse. The postoperative course again was uneventful and she was discharged on March 12, 1957, asymptomatic, and has remained so.

Case 2.—A. W., a young white woman, aged twenty-six, was admitted on May 2, 1957, with a history of being in an automobile accident eight or nine years ago. She did not remember whether or not she received a neck injury at this time.

She was asymptomatic until two years prior to the present admission, when she developed a dull ache at the base of her skull. This ache persisted and one year prior to admission the ache became more severe and radiated to the top of her head. The pain was relatively constant but the intensity varied and the severity increased up to the time of admission.

Physical examination showed tenderness over both greater occipital nerves and hypesthesia in the C 2 distribution bilaterally. On May 7 a cervical laminectomy was performed and the posterior roots of the second cervical nerve were cut bilaterally.

The postoperative course was uneventful, and she was discharged free of headache on May 15, 1957, and has remained so.

Case 3.—L. R., a white woman, aged sixty-three, was admitted on March 9, 1957, with a history of being in an automobile accident in September, 1955. In this accident, she sustained a mild injury to the left side of her head and neck. Following this she developed pain located at the base of the skull and the left posterior half of her head. The pain remained constant for three months, then subsided for a few days, only to recur. The pain then persisted until the time of admission.

Physical examination showed tenderness over the left greater occipital nerve and hypalgesia in its distribution. On March 12, a second cervical posterior rooh rhizotomy on the left was performed. The postoperative course was uneventful and she was discharged asymptomatic and has remained so.

The above case histories involved injury to the second cervical nerve. The lower cervical joints differ substantially from other joints in the spine in that, instead of three joints—two facets and one intervertebral joint—there are five. In addition, two are synovial joints that in part surround the disc, paticularly in the area of the root canals. They are spoken of as the lateral vertebral joints of Luschka. These are not present elsewhere in the spine. They are subject to inflammatory and traumatic reactions, as is any synovial joint, and when inflamed or traumatized, they heal by calcium deposits within the synovia; and these calcium deposits narrow the root canals through which the cervical nerves emerge. When the canals are narrowed, the nerve root is subject to massage with each movement of the neck.

We are now in the process of reviewing the histories of patients who have been operated upon for removal of cervical disc for the purpose of determining the incidence of head pain associated with this disorder and the incidence of relief following removal of the lesion. The statistical analysis has not been completed; but it is our impression that the coincidence of headache with these lesions and the relief of pain following their surgical removal is substantial. We are unable at this time to define with confidence methods of diagnosing this disorder or of clarifying the paths of transmission, except to recount possible pathways which may play a role. There are communicating branches from the cervical plexus to the vagus and hypoglosseal nerves from both C 1 and C 2. The superior cervical sympathetic ganglion has direct communications with cervical roots one to four.

Corbin and Hinsey have shown by degeneration experiments in cats that the ascending sensory branches of the upper four cervical nerves ascend dorsomedial to the substantia gelatinosa of the upper cervical cord and in a similar position with relation to the spinal tract of the fifth nerve in the medulla, terminating at the level of exit of the glossopharyngeal nerve. Connections are made along the way with the intermediate nucleus of the medulla and with the cuneatenuclei, the fasciculus solitarius and the descending vestibular nucleus and tract. Foerster has demonstrated that stimulation of the distal cut end of a dorsal root produces vasodilatation in the dermatome. Bridges recently has confirmed this for the cervical roots. There are intimate communications between the sympathetic chain of the neck and the roots and

it is not unreasonable to presume that bombardment of these structures with painful stimuli is sufficient to induce secondary autonomic changes in the head and face, such as reddening of the eyes and edema of the nasal mucous membrane.

Inasmuch as the synovial joints of Luschka surround a lage part of the discs in the cervical area, the discs are necessarily smaller than the other parts of the spine and do not extend to the lateral margin of the vertebrae. Hence, extrusion of the disc is less frequent, the posterior margin of the joint space in the cervical area is more narrow than the anterior, which further lessens the likelihood of disc extrusion. Disc extrusions do occur, however; and when they do, they are apt to induce symptoms immediately after trauma, which may of course subside with rest, traction, and immobilization; but usually they produce a characteristic clinical picture of pain in the neck, shoulder and arm, along with certain areas of sensory, motor and reflex defects in the painful extremity. They may in addition induce chronic head and neck pain, but this is not necessarily so. In contrast to this, the gradually increasing calcium deposits in the joints of Luschka subject the patient to pain long before definite root phenomena are demonstrated, for usually these signs do not appear until the circulation of the roots is interfered with.

Case Reports

Case 4.—N. M., a white woman, aged forty-three, was admitted on September 21, 1956, with a history of being in an automobile accident in June, 1955. In this accident, she received a whiplash type of injury to her neck. Following the accident, she developed pain in her right neck and shoulder and a right-sided headache. These symptoms persisted, varying in intensity, but showing a progressive increase in severity. She had been hospitalized elsewhere in October, 1955, and June, 1956, and had received conservative therapy without significant improvement.

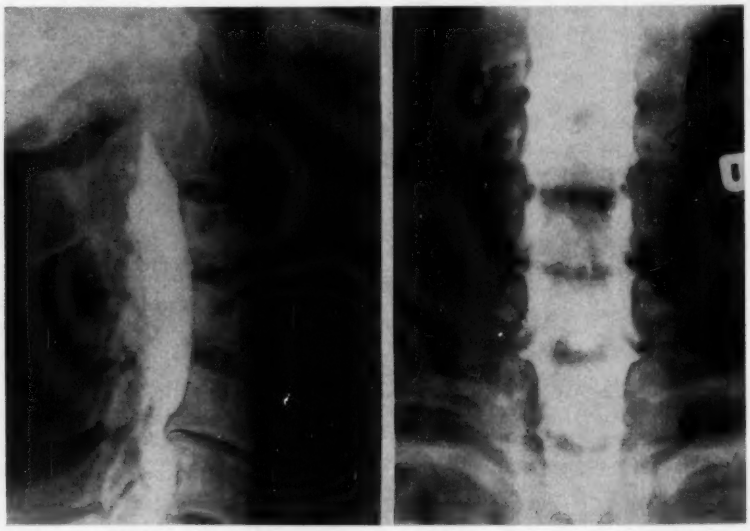

Fig. 1. Case 4. Myelogram showing defect in the oil column at C 5-6 level on the right.

Physical examination showed the upper extremity to be subjectively weak in all muscle groups. Neck motion was restricted and painful. Myelogram showed a defect in the oil column at C 5-6 level on the right *(Fig. 1)*.

On October 2, a cervical laminectomy was performed and a calcified mass removed from the interspace between the fifth and sixth cervical vertebrae on the right. The postoperative course was uneventful and she was discharged asymptomatic and has remained so.

Case 5.—M. H., a white woman, aged fifty-one, was admitted on February 12, 1957, with a history of pain in the left face of twenty-five years' duration. This had been intermittent, lasting hours to days.

In 1952, she developed pain in the left shoulder and neck. This was treated by traction with improvement of the neck and shoulder pain. The face pain, however, became worse and remained constant up to the time of admission. During this time, she had consulted many doctors and had received many kinds of therapy including alcohol injection of the nerve supplying the face.

(Continued on Page 1161)

Emotional Problems in Driving

By John M. Dorsey, M.D.
Detroit, Michigan

During the year I have emphasized three vital subjects: the personal touch in medicine, the necessity for freedom in medical practice, and professional unity. . . . The cold, brisk, and impersonal attitude toward patients is on its way out, and I say good riddance.

DWIGHT H. MURRAY, M.D.*

"and the drivers are stupefied. They are in confusion in the ways the chariots jostle one against another in the streets: their looks are like torches, like lightning running to and fro."**

IN PRODUCING and assembling my views on this topic of motion and emotion, I reminded myself again and again of the necessity to maintain a good-natured attitude in such tooling up, the number of traffic fatalities occurring on a holiday week-end giving my imagination many a gloomy detour.† It occurred to me that a most appropriate patron saint of the motorist might be one who was tortured on the wheel, a kind of martyr to the cause. My country's rolling economy has its awfully wonderful aspect. The traffic scene in the United States is such an enormous one that it can be comprehended only in a piecemeal way, such as: some seventy-million drivers, some sixty-million motor cars, some three and one-half million miles of roadway.††

To recover my proper medical balance of oneness, hope, and cheer, I acknowledged my deep appreciation for my trusty car and my increasing devotion to safe and sane automobile living. A gratifying experience which, in every instance of it, serves to give me a new lease on life, is to observe myself extending my study and practice of civilized living to include my riding a curve, making a light, or "putting the show on the road" generally. It is truly a sight for sore eyes to observe a driver whose interest in the love that passes understanding transcends his infatuation with the car that passes others.

Every physician is a physician basically by virtue of the value he places upon human life. From the time of Hippocrates, medical orientation has recognized that human life implies human individuality. It is an established fact that, *up* through the ages, human leadership in every other educational direction has been beholden to medical leadership, specifically to the physician's fidelity to the individual variant as the vantage point of his study and practice. Now again in the diagnosis and treatment of his traffic ills, the physician is foremost in seeing clearly that every traffic problem is necessarily a problem to a given individual.

Of all of the many ways in which traffic emotional problems might be presented, I choose this personal way of considering each one of them as entirely my own, for I regard it as the ideal medical scientific "method of choice."

Since traffic violations number well over ten million a year, since well over one million Americans have now been killed in automobile accidents involving chiefly collision and car out of control, since this distressing emotional picture of traffic toll of human life follows regularly its grim pattern year in and year out, and since traffic safety campaigns have always proved effective in evolving new methods, therefore may it be now just the ideal moment for every physician to point out, and *keep pointing out,* that responsibility cannot be lived in any way whatsoever except in a single solitary human individual!**

From Wayne State University College of Medicine, Detroit, Michigan.

*From presidential address before the House of Delegates: *AMA Journal,* 164: No. 8, June 2, 1957.

**Prophecy from the Book of Nahum, II, 3-4, 600 B.C.

†"During the past year, over 35,000 individuals were killed, and almost a million injured in motor vehicle accidents in the United States. In the armed forces alone, 1,610 persons were killed and another 10,360 injured in off-duty driving accidents. The economic cost of accidents through property damage, injury and lost time is staggering. In 1954, estimates for the country as a whole ranged as high as 4.5 billion in direct costs, and another 15.5 billion in indirect costs. The armed forces have computed that the average fatal accident of a serviceman costs the government $43,000."—John J. Conger, Ph.D., et al: Personal and Interpersonal Factors in Motor Accidents. *The American Journal of Psychiatry,* 113: No. 12, June, 1957.

††A most helpful book prepared under the leadership of Edward W. Pepyne, Driver Education Consultant: *Man and the Motor Car,* Fifth edition. New York: Prentice-Hall, Inc., 1954.

**The cry, "Get a horse," is no solution. The driven horse was a far greater killer than the automobile. See Reginald M. Cleveland, and S. T. Williamson: The Road Is Yours, New York: The Greystone Press, 1951. A fascinating account of the "men of stout heart whose vision and courage set America awheel."

Every motorist and pedestrian needs to grow in himself what corresponds, in the illusional and untenable language of "intercommunication," to a thorough "public-relations selling job" on the head of fixing responsibility where it is to be found, within himself. If, and when, responsibility is thus lived sanely, all insane guilt or blame is renounced.

Perspective

When a man dies, it means that a part has worn out.—HENRY FORD.

It is desirable that every mind cultivate an appreciation of how and why scientific method is both an issue of, and a way to, progressive life. Modern scientific living bases itself upon observation. The views of automotive living expressed here are intentionally individualistic, purposefully selfish, professionally personal. I might as well hide myself in Latin or Greek as in a vocabulary of "elseness" or "otherness" or "externality" which appears to rule me out. Calling any part of my own living "not mine", is a self-evident instance of being unable to call that part of my soul my own.

As a culmination of my thirty-two years of work as a medical educator, I find my sources of greatest emotional helpfulness to lie in my insights, my observations which I am able to recognize as taking place in my own mind. Every kind of living which passes for mental disorder, including emotional instability, is traceable to insight deficiency, to living myself inside out, without realizing that what I call "outside" is lived only inside of me.† Every kind of living which I sense as representing mental health and strength is traceable to insight sufficiency. However, as Shaw said, "I dislike feeling at home when I am abroad." Neither my likes nor dislikes, about any traffic necessity of mine can alter the reality of it to the slightest degree.

It is but natural, therefore, that I attempt the treatment of any and every kind of problem in my world from the standpoint of exposing it to the intimate view afforded only by my personal living of it. My every thought has emotional property and, in that basic sense, any and every traffic problem of mine may be conceived as an emotional one. My world is as my mind creates it and views it. In this sense it may be described most accurately as a psychological world. The world of myself, my world which has any and all meaning for me, may be considered as observable by my mind's eye. From the vantage point of literal medical pyrrhonism, I will proceed to "have a look" at certain of the emotional aspects of motoring, specifically with an eye for: What difference does it make if I see my world traffic problem as my own or not? How can I make sure that I contribute to my world's peaceful driving?

Since thick traffic, especially, is a mob scene, having in it all of the potential disorder of mob living of each driver, self-conscious living is clearly the specific antidote for everyone to employ, if he will spare himself the insanities of a mobster. This is a hard saying, to myself, but I find my driving much harder without the courage for this emotional and intellectual honesty. Furthermore, to maintain the driving improvement which this insight affords me, I must practice the exercise of it, as in this writing: earnestly, faithfully, systematically. Any of my alleged science which disregards the only basis for its being, self observation, for me, is true quackery.

Accidents as well as sicknesses will happen. It is impossible for any accident or sickness to occur unless every force necessitating it is present and working. The term "accident," as well as "sickness," may be seen as a costly misnomer. It is healthful to be able to view every accident or sickness kindly, in the sense that it reveals life-saving insights. I have found it helpful to renounce my attitudes of "fighting" accident or disease in favor of peacefully studying it, so that I may profit from the life-preserving lesson which the careful and caring investigation of it provides.

As a physician, renouncing extraordinary professional driving privileges, I may not well overlook the study of my, including my patient's, whole condition for driving. An awakening to this kind of safety consciousness is part of the reward for every doctor's self-contained scientific interest in, and reverence for, the majesty of man.

"Physicians ride the highways daily, and few groups exceed them in the frequency of use of motor vehicles. Therefore, they know at first hand that physiologic and psychologic factors determine the fitness of drivers, their reflex movements, the adequacy of their training, and, perhaps most important, their awareness of their own health limitations, including factors relating to mental health."*

†John M. Dorsey, M.D., Living Education. *Michigan Educational Journal*, April and May issues, 1957.

*Irving Graef, M.D.: Physicians and Automobile Accidents. See helpful reprint on Symposium, Medical Aspects of Motor Vehicle Accident Prevention, *New York State Journal of Medicine*, 56: No. 24, Dec. 15, 1956.

The study of my mind is always good medicine when it seem to be too narrow, and an excellent antidote for any philosophizing about any life which is not clearly my own. All automotive living is in every instance nothing but the emotional living of an individual human being.

"To understand both the healthy and the malignant emotional patterns, how they operate, in whom, when, and to incorporate the findings within a logical overall theory of accident phenomena will be a great accomplishment indeed. It is hardly necessary to add that such an accomplishment will not come about overnight. The answers, as most of the answers involving human behavior, will come slowly and piecemeal."**

Temper Is Too Valuable To Lose

The fact is this: the lonely man, who is also the tragic man, is invariably the man who loves life dearly—which is to say, the joyful man.—Thomas Wolfe.†

Much, as well as little, is known about emotionality; "much," in that every bit of it is of vital importance, "little," in that there evidently remains far, far, more to be discovered. This much, however, is already clear: an emotional block is always a potential traffic block; an emotional attack, or blowout, is always a potential traffic accident: impoverished emotionally, so-called "bloodless" living, favoring indifference and carelessness, is always a potential fatality; a rich, ranging, resilient emotional person, capable of living self-composedly each of his feelings in all of its quantities, is the potential ideal motorist.

Pain of any kind or degree is a life-saving sign that I am endangering my existence. Unhappy emotions are forms of self hurt. Each of my painful emotions may be reviewed as being a signal to me that I am not living enough of myself sufficiently consciously. Thus, fear always involves my regarding my somebody, or something, else as not mine, and hence as potentially destructive; hate always signalizes the same kind of dissociation—my hating, or being hated by, "another"; guilt is a form of self hate deriving from my feeling unworthy before my "other one"; envy is my effort to compensate for my ignorance that my superior other one is lived entirely by me; jealousy is a sign that I have dispossessed myself of love; shame is my sense of embarrassed self, a compensation for my lack of insight that all exposure is self-exposure; disgust is my feeling of revulsion unconsciously conecting me with a part of my repudiated self which I would expel; distrust, doubt, suspicion, superstition,—each is clearly a feeling signalizing my repudiation of my own self power.

Human living is emotional living. Whatever exists in me, exists emotionally. Whether or not I am able to be aware of my emotionality does not affect its existence. It is greatly to my advantage to be able to be aware that I am an emotional person, however. Otherwise, I may habitually live wrathfully, vengefully, fearfully, and so on, without realizing it, and, hence, without being able to feel how I am thereby hurting myself. For instance, entirely unsuspected as such, my facial pallor may be an expression of my habit of mind of living in despair, or constant fear; or my flush, an unrealized sign of my habit of mind of feeling constantly ashamed, or outraged; and so on and on.

Emotional "sobriety" is a matter of my feeling my emotions as my own. "Soberness" does not mean "unemotional"; it does mean: not drunk with my emotion, but able to enjoy it in a self-contained way. My driving without being able to sense my emotions as mine and only about me is a form of drunk driving. An autoist cannot well afford to live himself as an absentee autocrat, lacking an evident accessible self-starter and self-stopper. Driving a car calls for all of the presence of mind which the emotional sanity of self-realization, the height of human helpfulness, alone can provide.

My long suffering reader here cries out:

"Hold on there! Unless you want me to put this down as all stuff and nonsense, let me point out to you a few things. I always realized that my emotions related me to my fellowman, beginning with my mother and father. Now you claim that what I used to help myself with, in building up my human relationships, is a source of mental disorder for me! In fact, you claim that I keep myself immoderate, extreme, and generally uneconomical, by not seeing that all of my 'elseness' and 'otherness' is really mine, by not seeing that all of my so-called 'relatedness' is entirely my own inside living. According to you, my jealousy of my unfaithful mate would all subside and I would again be able to feel loving if I could see clearly that my mate is all and lovably only mine, and that I can love her truly only as 'unfaithful' to herself and therefore needing to cure herself of this self-cruelty! According to you, my feeling of persecution would give way to natural loving

**John MacIver, M.D., and William P. Shepard, M.D.: Human Factors in Accidents. *Ibid.*

†The Anatomy of Loneliness.

kindness, if I could see that I am living all of my own persecutor and hence could see that he can only be attacking himself by calling his own victim "not his"! You claim that what you live consciously of yourself can never be used for cancer formation, or life dissociation of any kind! Now, what I want to know is this, How does all of that super-duper selfishness differ from egomania, from megalomania? I saw a fellow once who thought he was Napoleon, and another one who thought he was the son of God, and each one was diagnosed as suffering from delusions of grandeur. Now *you* claim to be your own everything! But you'll say my despair is just the painful sign that I'm looking for outside help!"

Yes, my every emotion is lived by me, but is not about all of me. My love is all and only about love, my hate is all and only about hate, my fear all and only about itself, and so on.

Yes, living my mind in a way which works smoothly and harmoniously does necessitate accurate self-accounting. I may not confuse one part with all of myself, or the converse.

Yes, I am my own everything and feel grand about it, but I also see my "you" as your own everything, and also see that you cannot feel grand about it until you see yourself in that accurate, full, measure.

And, also, yes, my desperation is always traceable to my dogged determination to seek for help where it cannot be found, in the nowhere of not-I. My emotional hopelessness is ever a painful sign that I am not living myself in a hopeful way, that is, with the clear, sober, appreciation of my all comprehending human individuality. Otherwise, I would see that while there is life, there is hope.

To be specific, once I fail to see my fellow autoist as my own, I prepare myself thereby to suffer any and every painful feeling, without realizing that I am bringing it upon myself through this failure. I may become enraged or uncaring, fearful or reckless, accusatory or irresponsible, envious or scornful, and so on, and thus continue to hurt myself by living my enemy, or my stranger, as "not mine at all."

The efficacious treatment of each one of my emotional problems lies in my appreciation and continuous development of the extent of my self-possession and, hence, of my necessity for self-reliance. "God helps him who helps himself," is a view which encompasses the truth of the allness of individuality. This observation of self-consciousness as being the only possible ground of honest self-knowledge, the equating of self-consciousness with divinity, is reminiscent of my St. Augustine's consciousness of his self living, of my Descarte's self-consciousness, of my Malebranche's self appreciation, and of my psychoanalyst's view that making self a conscious self is a healthful procedure. Of my fellowman I can only observe, with holy writ: "Ye are gods." After all, is there any possible feeling of certainty, apart from self-consciousness? What is not a personal problem is no problem at all. "I am speaking of, and for, myself," must be my fundamental view in my attempt to treat my traffic syndrome. The free feeling of "my living me" is the central principle of my life. Each one of my sensations and perceptions is a primary form of the activity of my personality and, as such, represents my growing individuality.

Whenever my distressing emotion fails as a signal of mine which I can use for saving myself from the risks of self anesthesia, it must appear to me to "take over," to take up my self-awareness, so that I feel myself "in a panic" of this specific emotional distress. I may then proceed to try to make the best of a disabling circumstance, to suffer the "knock" of my mental motor as signs that its cylinders are missing.

As Helen Keller observes in beginning the story of her life, it is with a kind of fear, "a superstitious hesitation," that I publish my views upon my emotional problems in my traffic living. All I can ask, and that I do ask, is that my reader consider the author of this report as his patient, as one who recognizes that he is both mentally ill and weak, hence needing to heal and strengthen his mind. Again with Helen Keller, I do feel that "the higher truths relating to everyday life" do "embarrass most people as much as the company of great men." Self-blind as I am, to the extent that I am unconscious of myself, I too exclaim:

"What if a ray of light should flash through the darkened chambers of my soul? What would happen, I ask many and many a time. Would the bow-and-string tension of life snap? Would the heart, overweighted with sudden joy, stop beating for very excess of happiness?"*

Emotion in every kind and degree is a sign of life and a precious source of vitality. Any and every emotional problem is therefore not

*Helen Keller: The Story of My Life. New York: Grosset and Dunlap, 1905.

truly a problem inherent in the emotion itself, but one inherent in the particularly difficult way in which the emotion, simple clear and precious in itself, is experienced. It is fully well to be able to be conscious of every human feeling, or emotion, with composure. It is not so well to be intolerant of any human feeling, or emotion, with or without composure.

Driving a car tests the extent to which I have developed my ability to live emotionally with self-composure. A precious safety measure is the insight: My driving always involves exciting emotional living. Preparedness for my own "internal combustion" helps to prevent my overwhelming myself with various strong drives necessarily associated with my traffic driving. Both intense pleasures and severe pains, such as annoyance, anger, righteous indignation, envy, rivalry, guilt, fear, distrust, embarrassment, shame and so on are dangerously distracting driving distresses. It is up to me to grow able to live any such feeling with self-control, in order to have my car under control.**

There is no worse form of illness than ill manners. A test of my readiness to live myself in a good-natured, well-mannered way is administered every time I drive my car. I am indeed fortunate when I am sufficiently rested and self-contained to live the highway statesmanship of my fellow motorist really as mine, observing my pedestrian really as mine, recognizing all of my automobile world as really mine. The easier it seems for me to live myself as if I could be transported "out of my mind," as in times of loud exasperation or quiet despair, the less able am I to concentrate on the exigencies of my real motor transportation. The height of good manners is: minding my own business. Wilbur Shaw sagely observed about the "mortal sin" of inattentive driving: "A good driver is invariably a very poor riding companion, because he always has his mind on his work not on his entertainment."†

A "self-contained person" is one who is aware that he contains all of his pleasant and painful human feelings, one who is continent in that his emotions do not "spill over." The emotional component of my traffic living is ever great, often enormous, always contingent upon innumerable unpredictable events, and constantly a source of possible fatal interference with my driving efficiency.

As a motorist I help myself emotionally exclusively by realizing that my world, including my traffic is the creation of my own self, a production of my very own activity. With my Novalis I may say, "Why need we traverse the difficult roads through physical nature? The better and purer road lies within our own mind." Thus I may see the true expansion of my selfhood, finding my own individuality behind the veil I draw of "external world," recognizing my "externality" as my own product, as nothing but a wonderful means of mine for carrying on my individuality most happily. What living of mine I cannot identify as entirely an existence of my own is an illusion of mine, a reality of me which I cannot observe as such. When my Herbart recognized the study of mind as a legitimate self-interest he, thereby, introduced the importance of renouncing all other study. "I am my own 'ancients,' 'tradition,' 'authority,' 'history,' 'impersonal,' and any other psychologism,"—is the finding and founding of myself indispensable for my self-conscious living.

Another one of my readers resists this view:

> "Doctor, when I have been indulging the habit of mind, you would say, of not even questioning the existence of an external world entirely outside of me, what harm can there be to my driving if I just go on living in the same way that some three billion of my fellowmen live. In fact, wouldn't it annoy me, so that I'd better draw over to the side of the road and stop, to be constantly owning up, as you would describe it, to all of my traffic living? Can't I live a more serene emotional life by believing (1) somebody else can help me, and (2) I can help somebody else, than by seeing that (1) my somebody else can only help himself and (2) I can only help myself?"

As I ask myself each of these questions, I see clearly that my self-reliance, sense of self-possession, self-confidence, and self-esteem, in fact, every self element of mine, benefits from my living the truth of my oneness, and that the emotional gain of an accurate self-estimate is of life-saving driving help for me. Also, the habit of mind of owning up to my living is to be attained

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**John M. Dorsey, M.D., Psychological Medicine. *The Journal of the Michigan State Medical Society* (to be published).

†Also according to Shaw, the President of the Indianapolis Speedway Corporation, "In my opinion, the most courteous—or sportsmanlike—people on the road are the much maligned women drivers." See Paul W. Kearney; *How to Drive Better and Avoid Accidents.* New York: Thomas Y. Crowell Company, 1953.

gradually and simply by practice. And, lastly, my appreciation of my self-helpfulness is my very most cherished one, which I enjoy most happily in its corresponding expression in my fellowman.

Human life is nothing except the life of each separate individual human being, and it is nowhere else to be found. My *taedium vitae* is the direct outcome of ignored sources of liveliness in myself. I need naturally to see myself in every part of my world, not just in its front side or rear view mirrors, in order to clear my senses to revere my individuality. With each new model of car and expressway, for safety's sake, must go a new model of driver equipped with the virtue of how to use them: Self-insight. My tranquilizing drug may appear to "quiet my nerves," but it requires the growth of my self-consciousness to bring my serenity of spirit, stamina of soul, strength of sincerity.

After all, "traffic" is exactly what each one makes it out to be. Apart from its meaning for and in each individual, it can have no other meaning. As I live myself emotionally, so do I drive emotionally. As one of my friends keenly observed:

> "Any Detroit traffic condition depends largely upon which side of the bed I get out on each morning. When I feel up to it, the 'traffic' goes along smoothly and I marvel at the few snarls and 'ham' drivers. I can even enjoy seeing how each driver expresses his individuality as best he can in his driving. On other mornings, though, nothing seems to go well in traffic, nothing! Then everybody, everyone that I see anyway, looks like a hit-and-run driver, as if he shouldn't have a driver's license. He's asleep at the wheel, hogging the road, speeding, or stalled, or something that he oughtn't be. That's just the day I shouldn't drive on,—trouble everywhere, how can I keep out of it."

Defensive Driving

> To any serious observer the basic flaw in our approach to the traffic problem has been our universal misconception of the driver's license and what it means. —Paul W. Kearney.

An essential qualification for every driver, which is becoming more and more appreciated as a life-saving attribute, is that of his capacity to develop *defensive driving*.* Density of traffic now requires that I grow myself as a defensive driver, if I would avoid remaining an offensive one.

Defensive driving may be loosely defined as "driving for the other fellow," but it means observing that my "other fellow" is driving for himself, that he is living his immediate necessities in terms of the way he conducts his life generally. At first sight this view, "recognizing my responsibility for taking into account my fellow driver's inexpertness," may seem beyond my understanding. How helpful it is for me to acknowledge that every bit of progress in my development has been made up against that some ominous force, the Un-understandable! To see myself with this great souled enlightened selfishness in as much of my living as possible is the finest possible discipline of my sense of value, of my feeling of worth, of my appreciation of my life itself.

There are some two million new drivers beginning each year. Nothing can possibly reach the masses of traffickers except through each individual driver. My review of automotive meanings for the preparation of this study has definitely improved me as a defensive driver. The finest physician is the one who sees he is a self-made physician; the best driver is the one who sees he is a self-made careful driver. It is the mere feeling for my life which provides me with the effective motivation for caring for my fellow driver as mine. Nothing else can. What I live consciously is what I cherish consciously.

My highway truck driver has succeeded in "making a fine name for himself" as a decent fellow citizen of the road largely through his kind defensive driving. The more my emotional life harmonizes with my sense of self-possession, the greater is my capacity to become a defensive driver. Every really new slant on my growing up more helpfully is first viewed as repugnant to my habit of mind. For instance, the view, "Diagnose and treat my traffic violator as myself," will always blind me until I feel emotionally that I really help myself with it.

In all kinds of behavior where good taste based upon self-interest does not motivate my driving etiquette, for my wide-span driving I must call upon the next best source of self-care, namely superficial politeness. When I do not, and cannot, feel emotionally my well-mannered or ill-mannered fellow motorist as mine, I may compensate helpfully for this "case of mistaken identity" within me, by shallow civility, by pretending equality.

As I invest my living attention in my fellow driver, I thereby test my ability to live myself

*See Charlotte Montgomery: Handbook for the Woman Driver. New York: The Vanguard Press, 1955. This author kindly prefers the term "Wide-span driving," a wording which renounces violence and introduces the high man-powered meaning: Attention!

kindly in that particular identification. The greater my ability to tolerate kindly the inexpert driving of my fellow driver, the greater my readiness for my traffic living,—and the converse.

Quite as I tend to arrogate to myself greater mental health and strength than I really have, so particularly do I tend to consider myself a safer driver than I really am. This specific self-deception that I am more expert in traffic living than the facts warrant alone accounts for my contribution to the density of traffic. Mechanical devices unquestionably making my driving easier and safer, in every instance also may make it more difficult and dangerous, in that they greatly favor my illusion, "I am not now taking so many chances even if I am not the best of drivers." The "newest thing" in a revolver makes it no safer for Russian roulette.

What difference does it make to me if I call my fellow driver mine, if he happens to be intoxicated and drives his car in such a way that I cannot avoid a collision injuring myself severely? It makes all the difference in my being able to be kind to myself following my accident, in my escaping the narrow-minded view that two wrongs (to myself) can make a right, in my avoiding constantly torturing myself with feelings of bitterness and obsessing myself with derogatory ideas. By viewing the whole painful experience as my own I can help myself directly the most, and my intoxicated fellowman can help himself most. This self-kindness is the most economic force of all for guaranteeing my every kind of recovery, healthfully and wealthfully. With kindness, distributive justice proceeds best, amends being made as reparations, not as terrors. With kindness my healing process enjoys the most favorable course—synergic intentions, not cross-purposes.

Anterior to my traffic safety's shaky three E's (Education, Engineering, and Enforcement) is always its solid I. The deep and wide-span driving which enables me to see my mind in myself and keep myself in mind is a hidden critical factor in good driving. By concentrating upon myself as my world, I accumulate mileage on the right side of the right road leading in the right direction.

The indomitable force of the feeling of kindness is all too rarely appreciated, all on account of the fact that kindness is all too rarely recognized for what it always is: Self-kindness. All unkindness likewise is self-unkindness, and motoring unkindness may be suicidal. To the three R's for safety's sake, now is being added a fourth: Riding. A basic text for driving school, "Watch everything, far and near,"** highlights the necessity for the protective use of my mind's eye also.

I, including all of my fellowmen, have grown too rapidly as a motorist to be able to stabilize myself sanely on that level. Jokes have been made over the fact that our national flower is the golden rod even though ours is a car-nation. My young American male now regards his readiness to drive an automobile as a kind of maturity test. His steering and maneuvering a car have something of the significance for him which aiming and deftness with a gun had for his pioneer ancestors. Some grisly traffic humor proposes that the driver put a notch on his steering wheel for every pedestrian he runs down. Much car advertising appeal now is essentially that which attracts the emotions of the precious child in my nature. It appears to be leveled at that wonderful stage of my development which was accurately high and mighty, but which did not include my equally precious fellow driver in my comprehension of myself.

Perhaps the most misleading view of my automobile living, corrected somewhat in my convertible with the top down, is the illusion that it is a private life which does not include my public welfare. The illusion that I am "inside looking out" may take over to such an extent that my realization of living my "outside" within me may be correspondingly dim. *The key to a happy full life is to be able to see clearly all that is in that life.* I cannot consider myself with anything like a full view without having a happy sense of self-fulfillment.

Traffic Sanity

"Now in building of chaises, I tell you what,
There is always *somewhere* a weakest spot."—HOLMES

The public health significance of mind consciousness, of living my self consciously, is no where illustrated more clearly than in driving. Thus, it is sometimes strikingly evident that, as a motorist, I hide myself behind a feeling of anonymity. This lack of a sense, or feeling, of personal identity is what characterizes every bit of my "wild" behavior in every kind of mob action.

**Frank Williams: *How to Drive and Stay Alive.* Greenlawn, New York: Harian Publications, 1954.

Hence, having my traffic officer ask for my name and address accomplishes most for bringing myself to my senses. It has occurred to me that the simple method of having my name conspicuously appearing on the outside of my automobile would greatly favor my peaceful driving. A sane driver is a self-oriented one.

On the other hand, I can sense my need to identify myself with my automobile, even to the extent of driving it as if it were a continuation of my own body. It does seem natural to expect and demand that my driver identity, as an egomobile, lend itself to much greater use in my seeing to it that my ipsomobile† is in good driving condition, and that I, including my fellow driver and fellow pedestrian, escape harm. Vannevar Bush said it well, "The doctor, above all professional men, needs to be a full man." Nowhere is this qualification more applicable than to the doctor of traffic complaints. Certainly every sufficiently experienced physician has observed the personal resemblance of complaint and complainer, as of accused and accuser.

No matter whether I express my emotional disorders in speeding, lane-straddling, disregarding traffic signals, or losing my basic sense of selfness in concentrating upon "the other fellow's" poor driving, my fundamental difficulty is the same one, namely, my attention is not vigilantly devoted to my driving. Thus my chronic or acute, mild or severe, emotional panics disable me for this all-important purposeful focusing of myself as a driver.

My incontinent emotions may disable me as a driver in two chief ways: (1) I may be so greatly "upset" with inordinate anger, grief, jealousy, or any other extreme feeling, that I disqualify myself as a safe driver; or (2) I may live my emotional qualities under such disregard, so "feelinglessly," that I drive carelessly or uncaringly. It is particularly this forged "calmness" covering up my humane feelings, which can account for my reckless driving. As a cold, dispassionate, disinterested, impersonal driver, I lack humanizing kindness and a tender sense of identity with my fellow driver.

Each and every emotional problem, in or out of a car, resolves itself into a problem of my self-rejection, necessarily accompanied by a constriction of my self-esteem. Once I see nothing but my own identity in my living, I immediately recover my mental equilibrium. Moreover, until I do succeed in seeing wherein I am living my own fellowman, my distressing feelings signalize that human failing.

Driving offers innumerable opportunities for autohypnosis besides all degrees of actually falling asleep at the wheel. Easiest of all, I can lull myself into a sense of false security, simply by concentrating on such shiny truths as, "Nothing harmful has happened so far," "The fears I have when I 'imagine' traffic, are the worst," and so on. "On parade" I may enjoy my deepest and most satisfying illusion of being seen and heard from. The swiftly changing scenery can distract my attention from the dangerous operation for which I am responsible. Driving is a full-time risky assignment, and one which is not safely combined with other seemingly uncomplicated activities, not to mention courting, daydreaming, or drinking.

As more and more of my fellow citizens expect to be able to secure an automobile license, I certainly expect to find a much greater number of inexpert drivers. A similar kind of situation is occurring in my school living. As more and more citizens have demanded education rights, an illusion has been created to the effect that my educator appears to be lowering his educational standards, such not at all being the case. As far as respecting the dignity of the individual citizen is concerned, health is to be gained by having him educate himself as much as he can. If I take the position that it is good citizenship for me to have only those of my fellow citizens educate themselves who are capable of attaining highest educational standards, I find myself in an untenable position. Some similar American consideration of the most careful kind may be given to the inexpert driver. The true source of American vitality is American consciousness of the dignity and sufficientness of the individual man. "Team play" in which every player sees his team as his own—that is uniquely the American way. There is no emotional traffic tie-up which this clear mindedness cannot clear up.

Every person's traffic jam, or clearance, exists in him—he cannot exist in it. The traffic was made for man, not man for the traffic, little appreciated as this realistic view may be. *The degree to which my traffic becomes appreciated as mine is the only safe criterion for my measuring the achievement of humane traffic management.*

†This name was once proposed as the official one for "the horseless carriage."

I cannot make traffic safe for somebody else, or make somebody else a safe driver. Each one of us must do that for himself.

Perhaps this constant concentration upon the inclusiveness and exclusiveness of oneness, of individuality, is not clearly comprehensible for one of its readers. I am most thankful of all (to myself) for the awakening of my conscious interest in the arrest of my development inherent in the view: "Whatever seems incomprehensible to me is not a source of helpfulness for me and I can safely assume that it, itself, cannot be understood, and that I need not regard myself as unclear, unenlightened or undeveloped on its account." I am grateful to myself here and now for my ability to scrutinize my traffic views with less obscurantism, less occultism, less superstition, than I must feel if I do not see them entirely and only as my own.

The designation of a person as "a big wheel" is more humorous than humane. Man's unconscious identification with his car can be an instance of his "losing his mind"—not a conscious finding of his mind in his very own creations. Thus he may allude to himself with or without insight as "clutching up," needing a "tuning up," a "brake job," "new spark plugs," or "a complete overhauling." All of the machinery of his world, all of his universe exists in each man. Take from any one of his world interests the life which he gives to it and what remains of it? Nothing*

I can hear one of my readers exclaim,

"That's going too far! For instance, how may a driver's school profit from this comprehensive view of self-activity? What good does it do the pupil to pay more attention to the purely subjective, human, nature of all of his automotive living? Will not 'all people agree,' does not plain 'common sense' show, that every student driver needs to forget about himself and concentrate on his driving lesson? Is it not an ordinary observation which any student can make for himself, as you seem to like to say it, that he is surrounded by his environment, not that his environment is surrounded by him? Does 'Look Where You're Growing!' strike you as a better road sign than 'Look Where You're Going?' Is it your idea of safe driving technique to imagine your pedestrian, or fellow driver, as nothing but a sense perception, or an insight, of yours? Are you really 'so far gone' on your subject that you think psychology can correct traffic wrongs? How much of a deterrent is it to a careless driver to be mindful that he is only hurting himself by his carelessness? Oh, I could go on and on shooting holes in your individuality theory! When you see me next time on the highway, please see me as real and my car as real, not just perceptions of yours! Do you think for one minute that my seeing the road sign as my road sign, the ignition as my ignition, the steering wheel as my steering wheel, the accelerator as my accelerator, the brake as my brake, the traffic officer as my traffic officer, the traffic ordinances as my traffic ordinances, will improve my driving! Doctor, please, were you retarded in school, or do you just enjoy writing startling inanities? Put on your headlights, you're driving in the dark."

Treatment

"The man who knows not that he knows not aught
He is a fool, no light shall ever reach him.
Who knows he knows not and would fain be taught
He is but simple, take thou him and teach him.
But whoso knowing, knows not that he knows,
He is asleep, go thou to him and wake him.
The truly wise both knows and knows he knows,
Cleave thou to him, and never more forsake him."

From the Arabic

Who is a poor driver? One answer is an easy one for me. Some other impulsive, hot-headed, stupid motorist! However, a comprehensive view of the traffic problem in my world will not allow me to drive far in that kind of fog. To the extent that I do so, I top the myth of the headless horseman with the stark reality of the headless driver. What is the sovereign remedy, the panacea, the specific treatment for "the inexpert driver?" I know of no way of raising the level of automobile driving in my world except the sure one of making a better driver of myself. Nevertheless, it often seems practical to me to try to get everyone else in my world to drive more kindly (expertly). In fact this illusion of "making somebody else a better driver" is so tempting that, at times, it seems I might find it both "face saving" and comforting to develop this writing as based upon it. However, in the long run the medical principle of self-help shows up this illusion as being too unhealthy for indulgence. Discovering for myself that my fellow driver is only as dense or as clear as I am, finding out for myself that my expecting more carefulness than is

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**"Joe does not know that he is the victim of a mechanized and materialistic culture. His environment from the beginning has been so largely made up of gadgets and machines that without their benign presence Joe feels lost, as if he has been dropped suddenly into the middle of an Alley-Oop type of primitivism. Joe's life began with a deception. On his third day, he began sucking on a rubber or plastic nipple instead of at his mother's breast. He was brought up on a formula with certain additives to insure his motor against carbon deposits."—E. C. Coleman, I. Clark Davis, and E. G. Lentz: Shall Joe's Car Go to College? *American Association of University Professors* (Summer Issue): 43: No. 2, June, 1957.

immediately possible, can only increase my driving hazards,—such open-eyed insight has contributed immeasurably to my safer and saner automobile living.

Automobile accident prevention confronts every American citizen with one of his most severe tests of his ability to respect the dignity and comprehensiveness of his human individuality. The January 26, 1957 issue of the *Journal of the American Medical Association* is devoted to original articles bearing upon traffic safety. Everyone of these articles stresses the importance of studying each participant in a traffic problem as a unique individual. Fully esteemed human individuality is the health basis for all proper accident prevention programming.** It is becoming increasingly evident that an application for an automobile license requires for its completion a thorough medical examination, and that continued driving requires continuing, follow-up, medical clearance. For instance, as an individual who is "accident prone," I must deprive myself of driving privileges for my own good, pending my study and treatment and cure of myself as an accident repeater.

My need to be able to suffer myself "through thick and thin," to endure the growth of my hardiness as well as heartiness, accounts for the growing pains attending my progressive development as a world citizen. As long as my capacity for feeling hurt is applied toward my culturing myself in the ways of tolerance and magnaminity, it is all to the good. However, it is also possible for me to develop the habit of hurting myself less profitably, indulging a need for vindictive punishment, "asking for it," "leading with my solar plexis." Thus, "a glutton for punishment," I may be really anxious to have my accident for the week, or month, and get it over with. A nonshatter windshield is a great help, but it may not keep me from "flying to pieces." A safety belt is a wise precaution, but it may not help me to "hang on to myself."

Automotive inventions certainly help to make driving easier. But it is a grievous error to consider driving of any kind to be easy. My car is a truly marvelous instrument but, like every other means of expressing power, its use as a benefaction can be only the issue of the wisdom and care with which it is employed. When I attempt to account for there being as few accidents as actually occur, the best solution that I can come up with is that this outcome is itself accidental. This view may not be seen entirely as a gloomy one if the meaning of the word accident itself is carefully explored. "Accident" means: the forces necessitating the event are not sufficiently taken into account. It is a happy view which sees many unconscious forces not taken into account which necessarily reduce the number of collisions of every kind. As Kearney firmly observes, nobody will ever know how many "perfect driving records" have been made on the law of averages.

Is there any possible way of holding human life dear, not "cheap," except by revering human individuality? Does the soporific habit of mind addicting nearly everyone, "I live in my world, my world does not live in me," necessarily make for careless and reckless driving? Does all "traffic management" unrecognizable as self-development and self-control, tend to defeat its purpose: the preservation of human life? Does "automotive industry" have any significance whatsoever except insofar as each given individual contributes his own vitality to making it a meaningful concept? If I take my living away from "automobile," or from "traffic," what remains for me? Is it not thus with every single one of my fellowmen? Does this insight carry much weight in my world? Until this true dignity of man is clearly the motivation for safe driving, can there be wholehearted devotion to traffic safety?

Oh, yes, I can pass traffic ordinances in increasing numbers, as well as increasing traffic fines correspondingly; in other words, symptomatic treatment in the form of law enforcement helps. Even if present driving license requirements were enforced, it would help particularly in presenting the extreme necessity for driving proficiency in the right light. However, north, south, east, and

**"It is submitted that the prevention of motor-vehicle accident falls within the scope of preventive medicine because of the epidemic nature of accidental deaths and injuries and because of the outstanding role of host factors in causing accidents. The physician, because of his background in the biological sciences, has an unusual opportunity to understand the human causes of accidents and to combine treatment with education and safety." Ross A. McFarland, Ph.D.: Psychological and Psychiatric Aspects of Highway Safety. *Journal of the A.M.A.*, January 26, 1957.

Also see, Murray E. Gibbens, William V. Smith, M.D., Ward B. Studt, M.D.: The Doctor and the Automobile Accident. *Journal of the A.M.A.*, January 26, 1957. This article incorporates sixteen driving rules entitled the "Good Driver's Code." Every one of these rules embodies an appreciation of the healthfulness of self-esteem, and the healthlessness of self disesteem. As the medical authors indicate, it would be well to have a code such as this adopted by state licensing boards.

west of the traffic officer, the law of the six cylinder, or eight cylinder prevails, where government is not lived consciously as self-government.† Thoreau saw this truth brightly, "That government is best which governs not at all," and, "For government is an expedient by which men would fain succeed in letting one another alone and, as has been said, when it is most expedient, the governed are most let alone by it." The story goes that Sergeant Alvin York accounted for his single-handed capture of many enemy soldiers by, "I surrounded them."

Poceedings involving traffic offenses create unique problems of legislation and of law enforcement with regard to the issue of human individuality. Of local traffic courts, Alfred T. Vanderbilt recorded a profound observation:

"Traffic violations present peculiar problems which emphasize the shortcomings of many of these local courts. People whose sense of respect for law and order would preclude their attempting to tamper with the administration of justice in other courts, do not hesitate to do so in evading punishment for traffic offenses. While outstanding records have been made in traffic courts here and there, such courts unfortunately are the exception and not the rule. Yet because most people will never appear in any other court, there is no other place where they can learn the true meaning of justice, of respect for law, and their significance for good citizenship. The field is one which cannot be neglected without grave risk to the future of the body politic."*

Necessary to say, all of my humanity, mankind, is entirely mine! The general traffic safety of mankind is only, and nothing but, a matter of each separate individual's safety. The driver with the most insight is the sanest, hence safest. May my insight show me that my intention to improve upon myself as a driver includes my living myself in such a way that my fellow driver may similarly improve himself. Seeing all sources of helpfulness as useful in "traffic management," is no exception to seeing my traffic control as an extension of my self-control.

For seeing my automobile as the wheel of fortune, which it truly is, I, too, may well have it speak up for itself as follows:

I'm just a motor car—a ship of the highway—and you're my captain.

Behind my steering wheel you're the lord and master of a miracle.

You can make me take the kids to school;

You can drive me down the sunny road toward the country;

With me you can carry your goods from the market place . . . you can rush the sick to be healed . . . you can go in minutes to places otherwise hours away.

You can do magic!

Yet, in the blink of an eye, in one tick of your watch, I can turn deadly killer!

I can snuff out the life of a boy or girl still full of life . . . I can twist a smile into tears . . . I can wreck and cripple and destroy.

I can deal out death like the plague!

And I'm no respecter of persons . . . a child, a grandmother, or even you, my friend . . . it's all the same to me.

I'm sensitive. I respond instantly to the commands you give me.

If you guide me with steady hands and feet, clear eyes, and an alert brain—all responding to good attitudes, trained habits, and cool judgment—then I'm your friend.

But if I'm guided with unsteady hands and feet, dull eyes, or a sluggish brain . . . if I'm directed by unsportsmanlike attitudes, bad habits, or poor judgment . . . then I'm your enemy . . . a menace to the life, the happiness, the future of every person riding, walking, or playing.

I was made for pleasure and usefulness.

Keep me that way.

I'm in your hands.

I'm just a motor car, and you're my captain.

Behind my steering wheel you're the lord and master of a miracle or . . . a tragedy.

It's up to you!**

In order to feel deeply, grow emotional, about my traffic problem, I must observe it as personally mine. I can have no one else tell me what I only can find out, namely, that it's up to me to care kindly for myself, in my traffic as in any other living. I may be able to observe, however, that my neighbor is living himself with increasing gentleness and decent consideration in the way he drives his car—and such a self-observation of mine can further my stopping, looking, and listening. In this growth of my sane emotional traffic living there is no suggestion of that totally im-

†"A psychiatric examination in the Detroit Traffic Clinic was ordered for a commercial driver who had been ticketed on over two hundred occasions. His operator's license had been suspended, he had been fined, placed on probation, but he continued to drive without a license and was arrested."—Alan Canty: Problem Drivers and Criminal Offenders: A Diagnostic Comparison. Reprinted from *Canadian Services Medical Journal*, 12:136-143, February, 1956.

*George Warren: Traffic Courts. (Judicial Administration Series.) Boston: Little, Brown and Company, 1942.

**Man and the Motor Car. Fifth edition. The Center for Safety Education New York University. New York: Prentice-Hall, Inc.

possible mental feat of "learning by example." I can learn by my living only. Each of my emotions which I can see has only to do with my own living, is soberly lived. Every other emotion is intoxicating me, even though it be a kind of intoxication which my fellow physician's† most helpful Drunkometer cannot measure. My properly dreaded police classifications HBD (Had Been Drinking) and DWI (Driving While Intoxicated) may well be extended to cover my trying to drive and be inebriated emotionally at the same time.

After all of this one-way traffic of words, again I seem to hear my patient reader remonstrate:

"That this product of human activity called motor transportation is a psychological, hence human individual, one; that every meaning of traffic exists only in each separate mind; that individual independence is the producer of all that stands for civil and uncivil whole, hence the producer of the idea that whole humanity is nothing but a collection of single minds; that it is only his consciousness of his greater self, not his consciousness of his dependence upon a so-called 'external world' which he could not have produced, which makes man see his world as his own; that 'family,' 'state,' 'religion,' and all such personifications are products of man which grow only with his growth, and that he is not educated or in any way influenced by any of them as 'externals'; that self-created, and so consciously realized, sense perception (the same as insight) sees the truth; that whatever is wrong in a human being requires his mind to fix it; that any and every matter of any and every meaning presupposes one mind as its sole and whole creator; and that devotion to this kind of self-orientation is necessary in order that self-esteem (the specific feeling that heals and strengthens and satisfies), may be fully measured and fully dispensed, —all of that, I say, I can go along with, if in no other sense than as wild claims that you make for the study and practice of yourself in medicine with self-consciousness. What I would like to be able to see clearly is, How in the world of Dorsey, do you intend, or even expect, to have your seventy million worlds,* and that number is just your fellow American drivers, benefit from these technical introversions which you say yourself you have worked thirty-two years to cultivate? You can see for yourself what is needed *now*, not that it won't be needed thirty-two years from now, maybe more. Come down from your ivory tower and try crossing the Edsel Ford Expressway at the rush hour on those psychological feet of yours!"

†Dr. R. N. Harger, Professor of Biochemistry and Toxicology, Indiana School of Medicine.

*Agnes A. Sharp, Ph.D.: Forty Million Worlds. Public Safety, p. 16, June, 1939.

To all of which, and the like, I give careful heed. Once more may I point out that I am in favor of every way in which anyone in my world is helping himself, and here, specifically, solving his every kind of traffic problem. My view of helpfulness is in no way subtractive, only additive. From personal experience I find that I can and do help myself, whether I do it self-consciously or not. When I do it self-consciously I help myself more than otherwise, that is all.

May my discontented reader have the last words:

"Oh, yeah! Tell it to the judge! But according to you, all living is self-activity, so have your judge have some external observations on traffic by means of introspection!

"Or better still, next time he has me up for a traffic violation make sure that he sees me as *his* traffic violator, especially when he slaps on that fine.

"According to you, Doctor, there will always be a lot of labor-management unkindness, until the laborer can see his manager as his very own, and the manager can see his laborer as his very own. Are you expecting the millenium this year? Sure, if every employe of Ford Motor Company could live his Company, each of its personnel, as his own, he would thereby see himself as high above and far beyond attacking himself and calling his injured selfness 'the boss,' or 'somebody else.' I imagine that you wrote these minutes of yours in the quiet peace of your study, far from the noisy annoyances of the assembly line. There are a lot of bugs in your magnanimous 'broad selfishness' theory that need ironing out. If you don't believe me, try them out on a traffic violator who just came from a dressing down by his wife, is on his tardy way to an irate foreman, and is now confronting an indignant traffic officer!

"But seriously, Doctor, you remind me of the ancients in the way you would solve the traffic problem. They denied entirely the existence of any motion whatsoever, observing, 'A thing cannot move to where it is, since it is there already; and of course cannot move to where it is not; hence it cannot move at all!' Come to think of it, for me always and everywhere are ever the same, now and here! I am going to stop all of this or first thing I know I'll be saying, 'Maybe you've got something there. Maybe the only real development of driving-school *is* each pupil's heart culture.' I am interested in your claims for conscious self-possession and self-reliance though, and, as Kettering once said before the Automobile Old Timers, 'The desire to know is infinitely more important than knowing how.' If I am unconsciously arresting my own development, I want to wake up to that rut I'm in."

Function of an Amputee Clinic

By Frederic B. House, M.D.

Ann Arbor Michigan

IN PLANNING for rehabilitation at St. Joseph Mercy Hospital, we try to keep our eyes on the objective and allow ourselves to be somewhat flexible in devising plans for reaching the objective. In the case of amputees, the objective is clearly the rehabilitation of the individual patient. To accomplish this, a team is required since no single doctor or social agency can accomplish this task unaided. We have brought such a team together and we call it a Lower Limb Amputee Clinic. It is important to note that the team may differ from case to case as the individual patient's needs are found. Furthermore, it may differ depending on the role the surgeon cares to play. He is encouraged to stay with the patient and prescribe for him from beginning to end. He may, however, transfer responsibility as soon as the leg has been removed. If the surgeon does not stay with the case, medical responsibility is transferred to the physiatrist.

The clinic assembles once each week. We count among our members the surgeon, physiatrist, physical therapist and social service from our own hospital. From the outside we bring in the representative from the Office of Vocational Rehabilitation and the prosthetist. When needed, we can draw from any of the medical specialists in the hospital to assist with particular problems that may arise in a specific case.

The functions that the clinic performs can be described under six headings:

(1) Presentation of the case by the surgeon; (2) physical therapy; (3) evaluation and planning; (4) preparing the prosthesis; (5) gait training and (6) vocational adjustment.

Presentation of the case by the surgeons:—Ideally, the surgeon will present to the clinic a patient whose limb has been removed for just cause, at an optimum level, in which proper muscle attachments have taken place, skin healed and contractures eliminated. The time necessary for these things to take place is frequently unpredictable and a varying amount of assistance from others in the clinic may be brought to bear on the problem during the postoperative period. Because of this, we encourage bringing the case to the clinic soon after amputation has been done.

Physical therapy:—At the direction of the surgeon or the physiatrist, physical therapy may be used with benefit in the following ways: as means of general conditioning by the use of massage and exercises for the uninvolved limbs, for teaching crutch walking (a prerequisite to proper use of a prosthesis, since it demonstrates the patient's will to learn and ability to gain balance), for preventing contractures and building muscle strength necessary to the proper use of a prosthesis, for providing such agents as whirlpool, ultra violet light, ultra sound, bandaging and others for the proper healing and shrinking of the stump. The therapist has another role frequently forgotten—intelligently to encourage the patient in working toward his objective. She may make the difference between success and failure in this one activity alone.

Evaluation and planning:—With the information so far accumulated and the patient at hand, the clinic evaluates the case to determine three things. First, what degree of rehabilitation can be expected, second, how this can be accomplished, and, third, who will pay the bill.

It is well understood that no prosthesis will restore to an amputee the same degree of function he would have had with the intact leg. One may call the maximum possible degree of rehabilitation 80 per cent of normal and call 20 per cent that degree of proficiency required to permit the amputee not only to walk but also improve his ability to preform the activities of daily living over one confined to a wheel chair. With this scale in mind, the clinic can estimate the point in between those limits that a particular individual patient may expect to reach. Although, as a trick, a patient might be able to walk a few steps on a prosthesis, if he is not going to reach

Presented before the Michigan Chapter of the American College of Surgeons, Ann Arbor, March 12, 1957.

the twenty per cent level or above, he would probably not use the prosthesis and a great deal of expense would be wasted if one was made for him. Therefore, if such is the finding of the clinic, no prosthesis would be recommended and the patient would be instructed in the use of a wheel chair. If the clinic can see that a degree of proficiency could be obtained to allow the patient to do more than care for the activities of daily living but also allow him to be gainfully employed, then certain opportunities are available to him through the Office of Vocational Rehabilitation, including money for medical care, prosthesis and vocational adjustment.

Fig. 1. Above the knee amputee, midway in his gait training. The leg is still in the rough and will not be finished until a perfect fit has been obtained.

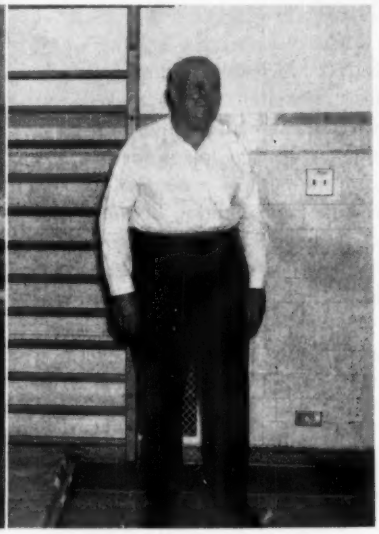

Fig. 2. Below the knee amputee, able to stand alone after many months of disabling vascular disease in the left leg and foot. He will return to gainful employment.

The problem of cost must be fairly faced. In cases which are not of interest to the Office of Vocational Rehabilitation, other means of financing must be found. Social service may help find ways. The patient himself, with the help of his family, may be able to pay the bills. It can always be said that if the outlook for rehabilitation is over the 20 per cent level the care of the patient in the future will be minimized by the use of a prosthesis, provided proper training and fitting are done.

Preparing the prosthesis:—The prosthetist can do remarkable things with a block of wood. With ancient zeal and a few modern tools he seems to almost duplicate the lost limb. However, as we have said, one doesn't expect 100 per cent functional recovery. The leg is made to the doctor's prescription for a patient who the clinic thinks will learn to use it. All the individuality of the patient's problem is built into the prosthesis. Many steps go into the production of a prosthesis which we will not discuss here. However, it can be said that with the clinic approach to the amputee problem the patient does not obtain a finished limb until he can walk on it and it fits well.

Gait training:—This process takes several weeks and is carried out by the physical therapist. The patient is required to come to the physical therapy department at frequent intervals. He is trained with the leg in the rough, using it only a few hours each week at first. In the intervals at home he continues the care of the stump and especially his exercise program mentioned at the beginning of this discussion. He is finally allowed to take the rough leg home for added practice when he is able to wear it with comfort for over an hour at a time.

Vocational adjustment:—The ideal result of our efforts is a worker back on the job. Many

opportunities exist for the proper candidate through the services of the Office of Vocational Rehabilitation. If the candidate is not able to learn to contribute to his own financial support, then social service and his family must help him make the adjustment to living without gainful employment.

Case Reports

Case 1.—This man had the onset of vascular disease many years ago. On October 3, 1956, he underwent an above the knee amputation of the left leg. Since our clinic was not functioning at that time, he was referred to a limbmaker who measured him for a leg. We saw him first on January 8, when the stump was well healed, but the patient was completely frustrated by difficulties in getting his leg and instructions in its use. The clinic evaluation showed an expected 40 to 60 per cent functional recovery according to our scale. The rough leg already made was obtained from the prosthetist. It was no trouble getting the patient to come in for training three to five times a week even though he had to drive from his home sixty miles away. On February 1, he was walking unaided for short periods. On February 12 he was allowed to take the leg home for use a few hours each day. On February 26, the leg was sent in for finishing. He was seen again March 12, the limb was checked out and follow-up arangements were made.

Case 2. (Fig. 2).—This man is very happy with his prosthesis and the prospect of walking again. His first operation was a left lumbar sympathectomy on July 9, 1956. Resection of a popliteal aneurysm was done on July 18, at which time occlusion of the distal popliteal artery was demonstrated. After a period of some improvement he came in for below the knee amputation, which was done on October 29, 1956. He was seen by the clinic on November 13 and started on physical therapy for the stump and for crutch walking. In the evaluation we could foresee employment and, therefore, his case has been carried by the Office of Vocational Rehabilitation. The leg was fitted on Januay 8. Adjustments have been made during the period of gait training. He took his rough leg home on February 12. On February 26, the leg was sent in for finishing, and it was checked out on March 12. Gait training will be continued as needed.

In summary, then, the function of an amputee clinic is to provide the services necessary for the rehabilitation of the amputee. This requires the use of a team which can be made up from agencies already existing in communities where hospital facilities are available. Furthermore, this team can function so as not to disturb the valuable patient-doctor relationships found in open staff community hospitals.

WHIPLASH INJURIES

(Continued from Page 1146)

Physical examination, on admission, showed limited ability to open or close the mouth (related to injections) but was otherwise negative. X-rays of the cervical spine showed marginal spurring of the vertebral bodies with narrowing of the intervertebral spaces at C 4-5, C 5-6, and C 6-7, with a reversal of the normal curve at C 4 level.

On February 26, 1957, a cervical laminectomy was performed and calcified spurs were removed at C 4-5 and C 5-6 on the left. The postoperative course was uneventful and she was discharged free of pain, but carried a mild weakness of the deltoid muscle on the left. She has remained free of pain and the strength of the deltoid muscle has improved.

Conclusion

The entire subject of trauma to the cervical spine and particularly that of persistent and late symptoms, requires cautious and detailed investigation before any conclusions or standardized method of treatment can be established. It is imperative that the subject be investigated, for we know of no disorder that tests one's clinical judgment more severely than that of deciding which of a patient's symptoms results from structural changes or nerve pathways, and which result from functional disorders, constitutional or acquired. The ability of a physician to judge correctly these factors from the onset of symptoms until rehabilitation is complete will determine (as Alex Aitken has stated) the number whose records are closed with the sum of money they spend and the disability which they keep.

Summary

Attention has been called to certain unusual features of the anatomy and physiology of the cervical spine believed to account for certain of the delayed and prolonged symptoms that arise after cervical trauma.

Asian Influenza

A Review of Available Information

By Michigan Department of Health
Lansing, Michigan

INFLUENZA was reported as being epidemic in Hong Kong during the first week of April, 1957. It apparently had its origin on the China mainland some time previously. The attack rate in Hong Kong was estimated at 15 to 20 per cent. The epidemic there subsided in mid-May. Virus studies showed it to be due to a Type A influenza of a strain not previously identified. Since its discovery in Hong Kong, this strain has spread to the various continents of the world. Travelers and ships from the Far East have brought the strain to the United States. Confirmed cases of the disease have now been found in a number of states with particular prevalence in relation to points of entry from the Orient.

The important factors in the Far East outbreaks have been poverty and crowding. Climatic and geographic factors do not seem to be operative. The incidence in the United States has been greatest where groups of young people from various places have come together with cases or contacts of the disease, as in barracks, on shipboard, in dormitories, and in camps. While cases and contacts of cases have now been widely spread in the United States for several months, no epidemics have been reported in the general population.

Although the Asian strain of influenza is highly contagious, and spreads rapidly, the disease itself has been mild, recovery has been quick and complications rare. Younger people seem to be involved much more than older people. This could indicate some previous experience with the particular strain or some immune factor present in the older age group which is not present in the younger.

The disease has been usually characterized in the United States by sudden onset, high fever, prostration, chills or chilling, sweating, frontal headache. general malaise, muscle pains, some cough, and frequently a sore throat. Nausea, vomiting, epistaxis, and abominal pain have been infrequent. Diarrhea has been rare, as has been neck stiffness.

The physical findings have ordinarily not been marked. Dull injection of the pharynx may be present. About half the cases have shown nontender swelling of the cervical and submaxillary lymph nodes. In rare instances, rales are heard in the chest. X-ray of the chest may show increased bronchial markings.

While blood counts have commonly been normal with a normal differential; although in some instances moderate increase in the total white count has been noted with some polymorphonuclear predominance.

Prompt recovery in twenty-four to seventy-two hours is usual. Treatment to give relief from pain, rest and ample fluids is ordinarily sufficient. Neither sulfa drugs nor antibiotics are effective against the influenza virus, but may be effective should complications, which have been infrequent, occur.

Since a number of conditions may simulate influenza, it seems desirable to have some sampling of local outbreaks to determine the presence or absence of the Asian strain. Laboratory determination of the disease is made from throat washings and paired (acute and convalescent) blood specimens.

Throat washings to be of diagnostic value should be obtained during the first three days of illness, and while the patient is still febrile. Throat washings are obtained by having the patient gargle repeatedly with 10 to 15 cc. of plain bacteriological broth, or boiled skimmed milk. Saline solutions should not be used for this purpose. It may be helpful to have the patient cough, thereby bringing infected material from the trachea into the pharynx before gargling. Washings should be transferred to a closed tube for transportation to the laboratory. If a delay of a few hours is necessary, the fluid should be kept chilled at refrigerator temperatures. Specimens should be iced with ordinary ice for transfer to the laboratory. Unless the specimen can be tightly sealed, dry ice should not be used. If a longer period of storage is unavoidable, the washing should be frozen and

(Continued on Page 1164)

Prepared August, 1957.

Detroit Surgical Association

MEETINGS OF MARCH 25 AND APRIL 22, 1957

Meeting of March 25, 1957

CANCER OF THE STOMACH

By Cameron Morrison, R. Lehman, A. Rutner, and G. S. Wilson

An evaluation of 637 cases of cancer of the stomach was made over a ten-year period at the Detroit Receiving, the Dearborn Veterans and the Grace Hospitals. It was found that the absolute survival rate was 9 per cent, with a 21 per cent five-year survival of those resected for cure. The survival rate was the highest at the Veterans Hospital, lowest at the City Hospital, with the private institution occupying an intermediate position. This study showed that the differences in survival depends upon the condition of the patient and the extent of the disease rather than the variation in technique and ability.

Meeting of April 22, 1957

REGIONAL ENTERITIS: TREATMENT AND FOLLOW-UP ON 100 CASES

By Solomon G. Meyers, M.D., Paul E. Ruble, M.D., and L. Byron Ashley, M.D.

The prognosis was somewhat better in 100 cases of regional enteritis seen at a large private hospital than that reported from the large centers where the more seriously ill patients gravitate. The diagnosis in this group was established by tissue study in 64 per cent and by gross inspection at laparotomy in an additional 21 per cent.

Some of the patients presented with fever of undetermined origin, sprue syndrome, infantilism, and obstruction due to foreign body. Four patients had gross bowel hemorrhage. Six developed ulcerative colitis. Two patients developed cirrhosis six and eight years after ileitis was diagnosed.

A study of the follow-up data on 89 per cent of these patients revealed that only 20 per cent of the group had spontaneous or medical improvement and the remainder required surgical treatment. Surgery is indicated in intestinal obstruction, fistula formation, and intractable disease. The operation preferred in this area is resection of the disease rather than short-circuiting with transection.

Follow-up data is available in fifty-nine of the sixty-two resected cases. Arrest of the disease or long periods of palliation occurred in 81 per cent of these. Eleven cases or 19 per cent had recurrence. Of the eleven cases with poor surgical results, seven had subsequent resections with good results in about half the cases. There was no operative mortality in the resected group. Thus, the surgical treatment of regional enteritis deserves a more optimistic prognosis than is generally reported from the large centers with a 40 to 60 per cent recurrence.

EXPERIENCES WITH SURGICAL CORRECTION OF VENTRICULAR SEPTAL DEFECTS UTILIZING CARDIAC ARREST INDUCED BY ACETYLCHOLINE

By Thomas Gahagan, M.D., Charles Sergeant, M.D., and C. R. Lam, M.D.

From the Division of Thoracic Surgery, Henry Ford Hospital, Detroit, Michigan

Fifty-one patients having interventricular septal defect have been operated upon with the use of the DeWall-Lillehei type of pump-oxygenator with the adjunct of cardiac arrest induced by injection of acetylcholine. This allows the heart to be completely isolated, with the systemic circulation maintained by the pump oxygenator, and the pulmonary and coronary circuits completely inactive. This allows the heart to be entered and the defect closed in a field which is quiet and free of blood.

Three situations have been encountered in which the ideal intracardiac exposure may be compromised. The presence of an unrecognized patent ductus arteriosus allows blood from the arterial side of the pump to enter the lungs, resulting in blood loss from the pumping system and bleeding into the heart via the pulmonary veins. An unrecognized left superior vena cava (persistent left common cardinal vein) allows leakage of pump blood into the right side of the heart via the coronary sinus, also resulting in blood loss and loss of exposure of the defect. The third situation is frequently encountered, in which the septal leaflet of the tricuspid valve covers the defect, as a curtain covers a window.

We have dealt with these situations in the following manner. Prior to starting the pump, a test is made for the presence of the ductus by proximal occlusion of the pulmonary artery. If a thrill persists distally, the ductus is patent and must be divided before the pump run. A search is made for the left superior vena cava. If present, it must be occluded during the perfusion by snaring it intrapericardially. When the septal leaflet of the tricuspid valve hides the defect, the chordae tendineae of the valve are severed and the leaflet is retracted upward to expose the defect. After closing the defect, the divided chordae are repaired.

The total mortality rate in the series is 34 per cent. Most of the fatalities have occurred in the group of desperately ill infants under the age of two years. In twenty-one operations performed on children three years of age or older, only one patient has been lost, a mortality rate of 4.8 per cent.

DUPUYTREN'S CONTRACTURE WITH SPECIAL REFERENCE TO THE PATHOLOGY INVOLVED

By Robert D. Larsen, M.D., and
Joseph L. Posch, M.D.

From the Department of Surgery, Wayne State University College of Medicine, The University Surgical Service of the Grace Hospital and the Surgical Service of the City of Detroit Receiving Hospital, Detroit, Michigan

Dupuytren's contracture, one hundred and twenty-five years after it was described by Dupuytren, remains a disease of unknown etiology. Histologic study of the specimens removed from sixty-one patients was undertaken. On the basis of these studies we have concluded that Dupuytren's contracture is a fibrous tissue proliferation which arises within the palmar fascia in intimate association with thick walled vessels and an increase in capillary vascularity. This tissue undergoes the well known stages of maturation of fibrous tissue until the stage of a firm, relatively avascular, contracted scar is reached. The pathological changes do not suggest to us that the lesion is due to inflammation or neoplasm. The significance of iron pigment in the early lesions needs further study. Surgery is the only form of treatment which will produce any lasting benefit in this disease, although administration of tocopherols and irradiation may produce some temporary improvement. The operation must be fitted to the individual patient. Complete excision of the fascia will be indicated in most cases; however, partial excision of the fascia and fasciotomy have their place in selected cases. With proper choice of operation and careful attention to operative details excellent or good results can be expected in between 80 and 90 per cent of the operated patients.

ARE YOUR PATIENTS PHYSICALLY QUALIFIED TO DRIVE?

(Continued from Page 1126)

important role in controlling the operation of these factors along our death ridden highways be played by the individual physician. He is in a position to judge the true nature of a particular case and prohibit driving. He, also, can educate his patients as to the importance of safe driving and the hazards involved when organic disease factors impair or threaten adequate function. With the advantage of his position of intimate knowledge and influence, he must then appreciate his public responsibility and join his efforts with those of others who fight to reduce the toll of this largely preventable disease of society.

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ASIAN INFLUENZA

(Continued from Page 1162)

stored briefly near minus 70° C. Blood should also be taken for serum samples: one during the time of acute illness, and a second, two to four weeks later. Specimens of 10 to 20 cc. Each is desirable if specimens can be obtained. Throat washings, and blood samples should be sent to: Dr. Thomas Francis, School of Public Health, University of Michigan, Ann Arbor, Michigan.

Pharmaceutical houses are presently in a position to provide vaccine within the next several weeks, which should be effective against the Asian strain of influenza. It is of lessened value if not given a week or more before exposure. Just now there is little indication as to how epidemic this disease will become among the general poulation.

Doctor—To Serve Society Better

President's Message

The past State Medical Society year has run swiftly as a mountain current. Like a cascading stream, it has dashed against giant boulders and gently splashed between green meadows. My metaphor refers simply to the problems and the accomplishments of our Society during the past 365 days. Never has there been a more exciting year and very few periods with such extraordinary accomplishments.

But as I write, the current still rushes and the boulders seem to become larger—so great in fact, that it is necessary to find out more about them—as some must be blasted out of the path of progress or dams must be erected to protect the fields of medicine. Again, my metaphor refers to the MSMS Market Opinion Survey, created to find out just what you, Doctor, and also what the people of Michigan want in medical care. Our monumental study—the largest ever undertaken by any state medical society—will chart our future course—will give us a pattern so our great resources may be used to the best advantage of the public.

As President, my last admonition to you is to study well the findings of this epic survey and to heed the direction signals which the report indicates. The practice of medicine, like a stream, may alter its course from time to time, but the principles behind Medicine always must be the same: to give to the people the best medical service available.

* * *

I come to the end of my tenure as your President with gratitude to all for allowing me this greatest honor of my life. I pledge a continuation of my zeal and labor for the altruistic purpose of the Michigan State Medical Society, which in essence is to equip each member of the medical profession to serve society better.

Rich Walls M-D.

President, Michigan State Medical Society

Editorial

TRAFFIC SAFETY NUMBER

The September number of THE JOURNAL of the Michigan State Medical Society, following a precedent of emphasizing diversified interests established many years ago, is devoting this issue to Traffic Safety. We are pleased to acknowledge the assistance of John B. Roger, M.D., of Bellaire, who helped to assemble the papers and advised in selecting the material published.

THE PHYSICIAN AND TRAFFIC SAFETY

You and I as physicians can do much to reduce the carnage on the highways. We cannot do it all, for there is no one simple remedy. Any significant reduction in highway accidents will be the result of a variety of efforts on the part of many groups of people: more careful methods of driver licensing, meeting the problem of the drinking driver, better car design, more and better driver education, better law enforcement, safer highways. Improvement depends on efforts in all these areas, not just in one or two.

Viewing the traffic safety problem in epidemiological terms, it is reassuring to observe that much progress has been made. While the totals each year remain distressingly alike, we must not forget that when traffic fatalities are reported on the basis of units of 100 million vehicle miles, it is two and one half times as safe to be on the highways now as it was in 1934 and 1935, the two worst years rate-wise that we have ever had. We killed 38,000 on the highways in 1955, but at the 1935 rate this figure would have been 95,000! We want to remember this improvement of the past when we are tempted to despair of our efforts of the present.

While it is reassuring to look at the past with the eye of the epidemiologist, it is frightening to look into the future with that same eye! The experts tell us that in the next ten or fifteen years we can expect a rise of 45 per cent in vehicle-mileage. If this is true, in the same period of time, we shall have to reduce the accident *rate* by nearly 50 per cent from what it is now in order even to just stand still!

There are a number of articles in this issue of THE JOURNAL which point up some of our responsibilities as physicians in the prevention aspect of this problem. In these areas which are uniquely medical, only the physician can guide. Much of this guidance will have to be given to patients individually, depending on the health problem involved. Some will be given corporately in the form of suggested educational approaches, licensing standards, et cetera. Not always will such guidance be appreciated or understood, for too many Americans think of their rôle as drivers as a constitutional right rather than as a privilege granted them by the State. But such guidance must be given, tactfully and persuasively.

This year, at the request of our State Medical Society, a bill was introduced into the Michigan Senate which, if adopted, would have done much to screen physically unfit drivers, and to make others with less serious defects into safer drivers. Yet this bill died in committee. This bill, or some modification of it, should be introduced again and again until it finally is adopted, even as Michigan's excellent student driver training bill had to be introduced a second year to get it out of committee and adopted by the Legislature.

We physicians must not forget that we also are citizens, and should be the spark-plugs of local community efforts towards safe driving. Our memberships in luncheon clubs and other community organizations give us unique opportunities to be catalysts for safety.

In addition we should not let the occasional necessity to hurry in an emergency become the pattern for all of our driving. The physician should set an example to his patients and neighbors for sober, careful and considerate conduct on the highways.

You and I have a unique opportunity to make the highways safer for our patients and ourselves. Let's use it!

JOHN R. RODGER, M.D.
Chairman, MSMS Committee on Study of Prevention of Highway Accidents

DO DOCTORS CHARGE TOO MUCH?

Dr. Frank G. Dickenson, head of the economics department of the American Medical Association, and *Medical Economics*, the magazine, have published material tending to prove that, in general, charges made by doctors are not excessive. They have demonstrated that hourly charges, as worked out by hours of duty—as compared to plumber's charges, for instance—actually bring a lesser return in terms of dollars. In spite of all the evidence, it is constantly asserted by pressure group leaders that "doctors' charges" are too high. Of course, all medical care and hospital services are included, but not stated.

An authentic exposition from an entirely new and unbiased angle is welcome. The *U. S. News and World Report* on its cover for July 5, 1957, in half inch high letters, black and red, asked, "DO DOCTORS CHARGE TOO MUCH OR NOT ENOUGH? What Government Figures Show." Sketches showing health cost values for the period 1936 to 1957 are most impressive: Accepting doctor's fees, cost of living and hospital bills for 1936 as 100, the diagram shows that hospital rates have increased to 387. Cost of living has gone up to over 205, doctors' bills on the same average have gone up to 178, and dental costs averaged just more than the medical profession, 185.

Eight pages are devoted to this study, with a mass of tables, rates and averages—all from government sources. The reason for the constant rise is still a question. Hospital rates are commented upon with the marked growing costs reaching over $6,000,000,000 a year. Some hospitals are government-supported, federal, state or local, while others are voluntary or private. But all are in financial trouble.

It is very evident that all the people must learn to budget their health costs and accept a greater percentage of costs. This is primarily due to hospital costs which have almost quadrupled in the twenty years under study. The article in *U. S. News and World Report* stated specifically that doctors' charges have really followed far behind the cost of living, and no blame is justifiably imposed on the professional people involved in health services. Hospitals must accept their responsibility and the "why" is carefully avoided.

THE "WHY"

Many times, in these pages, attention has been invited to some of the basic reasons for hospital increased costs. Hospital labor, nurses, cooks, maids, all employes have always been woefully underpaid. For several years that condition has been on the remedy column. Wages and salaries constituted varying amounts of hospital costs depending on the reports and local conditions, but they are from seventy to eighty per cent of all costs of operating a hospital. These wages and salaries are still below equivalents in industry. A second item is that more services are used and needed by the increased and modern methods of care and attention all patients now receive.

Another question asked by *U. S. News and World Report* for June 14, and July 12, 1957, gives some more information. Place the value of the dollar of 1935 to 1940 at 100 cents of actual purchasing power and we find that the dollar of 1952 to 1956 is worth only 49.7 cents and is decreasing. It now takes over two dollars to buy as much work as one did. The same is true of supplies and everything else.

THE VALUE OF OUR MONEY

The invested dollar is earning less than the cost of living increase. In other words, the dollar and its interest earnings for the past ten years has actually depreciated. The two together are worth less. Something is wrong with our money control. It may be that the medical profession should take a hint from labor, and tie into our charges such items as our prepayment premiums and our retirement provisions with the cost of living. Labor was five years ahead of us in adjusting wages to cost of living and has profited much. Now labor is suggesting that social security and retirement annuities also be tied to the same varying value of the dollar, otherwise called "cost of living."

Tax expenditures by state governments, part of the cost of living, in the short space of eight years (1950-1957) have gone from $12.3 billions to $20.6 billions, and the appropriations for 1958 are $22.5 billions.

Labor took particular pains to provide retirement funds through employers. Fixed rates were established to be paid in the far future after the working man should have passed sixty-five. Changing values have made those retirement monies

worth about one half the amount of anticipation. The same is true of social security payments which have also been increased. Labor leaders have recently proposed a tie-in of "cost of living." The workers realize their old age pensions, allowances or insurance are dwindling.

The self-employed citizen or professional man, who wishes equality with labor and who wishes ultimately to retire with the living $5,000 a year would have provided in 1925, would have to invest in industrial stocks or corporate bonds for these years as follows:

Industrial stocks		*Corporate bonds*	
1925	$105,260	1925	$ 91,410
1949	$ 76,760	1940	$114,590
1950	$201,220	1955	$251,170
1957	$206,820	1957	$213,610

This gives a glimpse of values being asked to be set aside to guarantee a stable, non-decreasing income by the one unit of our society having the power to dictate.

IS MEDICAL PRACTICE CHANGING?

Those who have been in the profession a score or more of years know the practice of medicine is undergoing great changes. They have seen revolutionary changes in pharmacology with new drugs, appliances and methods. Fully 85 per cent of the methods and materials now used in medical practice were unknown a short score of years ago. Much of our exact scientific medical knowledge is also new. Surgery has made fantastic strides. The modern operator has at his command methods of anesthesia, methods of by-passing the heart, the kidneys, of entering those organs for elaborate procedures. No cavity of the body is now barred to curative procedures.

This short time has seen far more exciting and promising developments of skills and methods of healing than the whole preceding period. From a scientific and professional consideration, the medical world has and still is far outstripping all recorded history. But the welfare of our people who need advice and counsel involves much more than diagnosis and treatment of their ills. The idealism of our pioneers in economic and socio-medical problems have made just as rapid and just as rewarding contributions. They saw the need to assure the benefits of our vastly increasing medical know-how when only a small portion of our public were financially able to obtain the services. The medical dreamers were faced with demands for government to dispense medical care on a compulsory "insurance" basis. Private study, research, trial and error, spurred on by the knowledge that no matter how skillful or successful our services might be, has shown that even if no one could pay for them, there was still a need. Those inspired and devoted dreamers knew that a helping hand in the form of methods of paying which were much less painful, would be a boon to the patients and their families. Criticism and discouragement failed to stop the spontaneous grass roots movement which changed the time worn and unhappy methods to a budgeting and prepayment success. This, the medical profession gave our people.

We are now in another era of need with more demands and more problems, and again there is a demand for someone else than the profession to administer and "run the show." Again it will take the concerted and continuous administrative ability of an understanding group—the doctors themselves—and not just a few of them but such an overwhelming percentage that no question may arise.

THE PROGRAM

The socio-economic problems are an extension of those of a decade or two ago. They can and will be solved—and by the same kind of devotion and dedication that was so successful before. The profession must work together, or we shall work separately under orders, and not as efficiently. Labor unions and the government are pressing, they would like the opportunity to put the professional man on an hourly schedule whose work hours might well be far from their own projected thirty-six hours a week. Few doctors are now working less than about sixty, but they are their own task masters.

The growth of voluntary health plans has changed the picture of unpaid medical accounts from one of being left unpaid, to one where prompt payment of the account in almost its entirety can be anticipated. Let us preserve the concept responsible.

There must be no delay. The labor leaders and the government bureaucrats, still in the seat of the mighty, are ready and anxious for one single failure to prove their contention that neither the medical profession nor the other voluntary plans

can give the complete services they say their people wish. Government will be pressured into the actual administering roles they are ready and eager to assume.

The House of Delegates in our September meeting will have made a decision. We are confident it will have been right. Whatever the outcome, the medical profession must not follow the lead of our brothers in England who are now regretting —and belatedly fighting for *right*.

ASSISTANT EDITOR NAMED

LOUIS J. BAILEY, M.D.

President-Elect of the Wayne County Medical Society, Louis J. Bailey, M.D., has been named by the Council of the Michigan State Medical Society as Assistant Editor of THE JOURNAL of the Michigan State Medical Society. The Editor is Wilfrid Haughey, M.D., of Battle Creek.

Dr. Bailey was born in Detroit and received his M.D. degree from Wayne University College of Medicine in 1925; M.Sc. (Med.) University of Pennsylvania in 1939. He interned at Providence Hospital and now specializes in internal medicine. He is on the staff of Wayne County General and Detroit Receiving Hospital, a Fellow of the American College of Physicians, and has been an Instructor of Clinical Medicine at Wayne University since 1928.

He has been a member of the Wayne County Medical Society since 1932, served as President of the Noon Day Study Club 1938-39, Chairman of the Membership Committee 1937-39, Chairman of the Program Committee 1945-46, editor of *Detroit Medical News* 1954-56, and trustee in 1955, also as delegate to the Michigan State Medical Society. He served in the U. S. Navy from 1918-1919.

Dr. Bailey is married and has three children He makes his home in Birmingham.

In the past fifty-six years, mortality from tuberculosis has declined from 199 to 8 per 100,000 population, according to Health Information Foundation. While this is remarkable progress, tuberculosis is still a great health problem, with 100,000 new cases reported in the United States in 1955.

HELLER REPORT

WM. A. HYLAND, M.D.

The House of Delegates of the American Medical Association, in its final hours before adjournment in New York City at the annual session, received a report from the Board of Trustees that a business and managerial report had been made by Robert Heller and Associates. The Trustees and the House, respecting the confidential nature of the report, directed that a committee be appointed to receive the report, study it, and bring in recommendations at the Philadelphia meeting in December.

That committee is appointed and at work. The Chairman is William A. Hyland, M.D., of Grand Rapids, chairman of the Michigan Delegation to the AMA. Other members are: Louis A. Alesen, M.D., California; Harlan English, M.D., Illinois; Norman Welch, M.D., Massachusetts, and Charles T. Stone, M.D., Texas.

The Reference Committee which considered this report wrote:

"Your Reference Committee concurs with the Board of Trustees that a committee of five members of the House of Delegates be appointed by the Speaker to study the report and to select those portions which should receive action by the House, to discuss those recommendations with the Executive Committee of the Board of Trustees and such others as may be deemed appropriate, and to submit a report with recommendations to the House of Delegates at its next session (Clinical Session, Philadelphia, December 3-6)."

Copies of this report have now been sent to members of the House of Delegates, the AMA officers, and to the State Medical Societies. The Editor is informed that the report and the work of its study committee form probably the most important positive action the AMA has taken for many years. We congratulate Michigan for possibly sparking the study resulting in this Heller Report, and for furnishing the committee chairman.

We congratulate William A. Hyland, M.D., who has received many testimonials of our esteem by receiving our highest offices, and who is still in the top echelon of our advisors. He has the responsibility for interpreting and implementing this new step in medical life.

Michigan's Department of Health

Albert E. Heustis, M.D., Commissioner

SPECIAL PROJECTS IN PUBLIC HEALTH CHRONIC DISEASE PROGRAM DEVELOPMENT

Operating within legislative authority and departmental regulations and policies, the Division of Tuberculosis and Adult Health of the Michigan Department of Health functions to control the spread of tuberculosis and the venereal diseases; and to encourage and promote programs directed at the prevention of occurrence of chronic disease and the control of its progression, including the promotion of early detection, adequate treatment and rehabilitation.

For a number of years, the basic budgets of local health departments have included provision for chronic disease program development. As a further supplement to these allotments, the Michigan Department of Health has used the method of special projects to stimulate expansion of current activities and to demonstrate new knowledge and techniques.

The major disease categories receiving allocation through special projects include tuberculosis, cardiovascular diseases, cancer, diabetes and syphilis. Tax support has come from two sources (for 1956-57); a state appropriation of $250,000.00 for expanded tuberculosis case finding and control and; approximately $50,000.00 from Federal grants for programs in cancer and heart disease. In addition, voluntary health agencies have provided financial aid and professional technical service on a local and State basis. Conservative estimates of this support, primarily from tuberculosis associations and cancer societies, totals $30,000.00 for the period.

Thirty-four local health departments representing fifty-four counties and four cities have received direct financial assistance through special projects.

Functionally, project activities carried out from July 1, 1956, to June 30, 1957, can be summarized as follows:

1. *Case finding:* Chest x-ray screening for tuberculosis, pulmonary neoplasm, cardiac abnormalities; hospital admission x-raying; Mantoux tuberculin testing (children and adults); cervical screening, general cytology; mass blood surveys (venereal disease, diabetes), multiple screening follow-up; special investigation of problem cases, stationary and itinerant tuberculosis clinics.

2. *Case Management (Treatment, Care and Rehabilitation):* Medical administration and clinical service (tuberculosis, venereal disease); medical social service; rehabilitation nursing demonstration, home care (nursing), adult health clinic service and diagnostic and treatment centers for venereal disease.

3. *Records Management:* Refinement of Central Tuberculosis register (State and local), promotion of voluntary reporting of cancer; refinement of venereal disease reporting.

4. *Education and Training:* Provided medical externship with field work in tuberculosis, cancer and heart diseases. Conducted professional conferences and institutes on chronic disease in general and with specific disease entities; initiated public education activities designed to promote voluntary participation in case finding surveys; planned lay education, services and materials to promote greater awareness of the needs and resources in chronic disease control; established a training program for radiotherapy technicians for cancer therapy; provided practicing physicians with annual subscription to the *Heart Bulletin*.

5. *Operational Research:* Study of health education needs of tuberculosis patients and families in terms of modern therapy; study of the values and limitations of hospital admission x-raying; an evaluation of tuberculin testing among student nurses; study of tuberculosis home care costs; study of the nature and scope of chronic disease in a selected county; study of the values and limitations of 70 mm. x-ray screening in early detection of pulmonary neoplasm and heart disease; study of the prevalence of non-tuberculous abnormalities among patients in nursing and convalescent homes; study of tuberculosis control measures (tuberculin, BCG, chest x-ray) among student nurses.

The variety of functions outlined above were abstracted from reports of the fifty-two special projects operating in the fiscal year 1956-57. They represent the combined efforts of the State and local health departments, hospitals and voluntary health agencies. In each instance, the proposed projects were presented to the medical profession (state and/or local) for study, advice and support.

It is readily recognized that these activities, when evaluated in terms of the total problem of long term illness, represent only the preliminary steps to a concerted attack on the problem. They do provide evidence, however, of a gradual reorientation of community health services to meet this challenge.

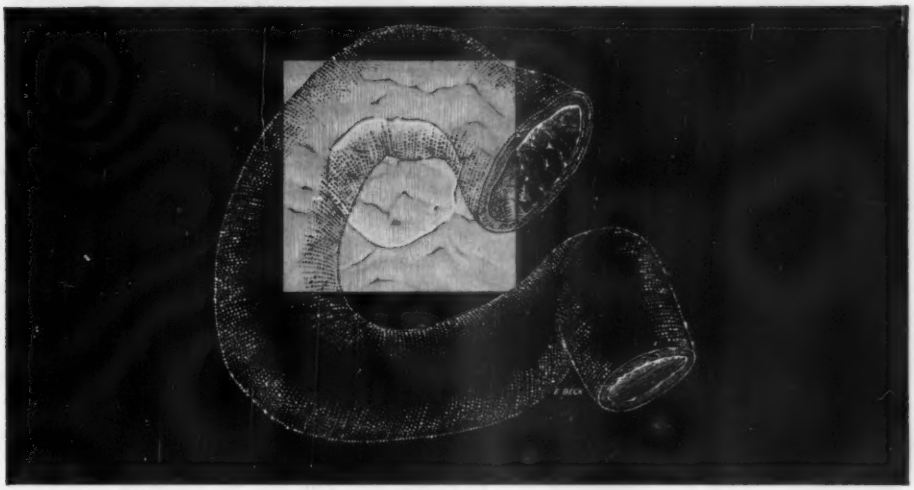
HOSPITAL COSTS

Since the last Blue Cross rate adjustment in March, 1956, hospital costs have increased from an average daily charge of $25.96 to $28.60, an increase of 10 per cent. In 1950, the average number of employes in all hospitals in Michigan was 180 persons per 100 patients. In 1957, this has risen to 207, an increase of 15 per cent. Since more than 70 per cent of hospital costs are salaries and wages, that accounts for at least 10 per cent.

UTILIZATION

For each 1,000 persons covered by Blue Cross, there will be 151 hospitalized each year. For each 1,000 persons covered by Blue Shield, there will be 327 persons receiving medical, surgical or other services for which Blue Shield pays.

RELIEVES THE GNAWING ACHE



Pro-Banthīne® provides rapid control of pain in peptic ulcer

In a two-year study[1] by Lichstein and coworkers, documented by intensive personal observation and by follow-up studies, Pro-Banthīne (brand of propantheline bromide) often brought immediate relief of ulcer pain. Patients (11 per cent) who did not respond satisfactorily to Pro-Banthīne therapy had "anxiety manifestations of psychoneurotic proportions."

In addition to frequent immediate symptomatic relief, Pro-Banthīne reduces gastrointestinal motility and diminishes the secretion and acidity of gastric juice, all-important factors in the generation and aggravation of peptic ulcer.

These actions of Pro-Banthīne and its demonstrated effectiveness in accelerating ulcer healing[2-5] mark the drug as a most valuable adjunct in the treatment of peptic ulcer.

The suggested initial dosage is one 15-mg. tablet with meals and two tablets at bedtime. An increased dosage may be necessary for severe manifestations and then two or more tablets four times a day may be prescribed.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

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1. Lichstein, J.; Morehouse, M. G., and Osmon, K. L.: Am. J. M. Sc. *232*:156 (Aug.) 1956.
2. Sun, D. C. H., and Shay, H.: Arch. Int. Med. *97*:442 (April) 1956.
3. Rafsky, H. A.; Fein, H. D.; Breslaw, L., and Rafsky, J. C.: Gastroenterology *27*:21 (July) 1954.
4. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25*:416 (Nov.) 1953.
5. Silver, H. M.; Pucci, H., and Almy, T. P.: New England J. Med. *252*:520 (March 31) 1955.

SEARLE

In Memoriam

Bruce Anderson, M.D., aged eighty-three, Pontiac physician, was a graduate of McGill University, Montreal, and a member of the American College of Surgeons. A charter member of Oakland Hills Golf Club, Dr. Anderson also belonged to the Blue Lodge, Detroit, Central Methodist Church and was a left member of the Detroit Boat Club. Death occurred July 4, 1957.

Roscoe W. Cavell, M.D., aged sixty-one, professor of psychiatry at the University of Michigan Medical School, died July 13, 1957, of a heart condition. Dr. Cavell was born January 20, 1896, in Hamburg and received his degree as doctor of medicine in 1921 from the College of Medical Evangelists at Loma Linda, California.

During World War II, he was chief medical officer (Colonel) of the U. S. Induction Station in Detroit before being transferred in 1944 to the Ninth Army as a consultant in neuropsychiatry.

Leland V. Hewitt, M.D., aged fifty-eight, Detroit and Grosse Pointe physician and surgeon, was born in Brooklyn, Michigan, and was graduated from the University of Michigan Medical School in 1923 to intern at Grace Hospital. Dr. Hewitt was a member of the Detroit Yacht Club and Phi Chi Fraternity. He died July 6, 1957.

Eugene L. Kendall, M.D., aged seventy-eight, a native of Grand Rapids, began his practice in that city in 1909. He was a graduate of the Detroit College of Medicine and Surgery, a life member of Valley City Lodge, Columbia Chapter, a member of the Knights of Pythias and the First Congregational Church. Death occurred on July 16, 1957.

Edward A. Malik, M.D., aged forty-nine, Detroit general practitioner, died June 1, 1957, of a heart affliction which had plagued him since his youth.

Dr. Malik interned at Grace Hospital after his graduation from Wayne State University Medical School in 1939. He had a residency at Grosse Pointe Hospital.

George W. Moore, M.D., aged eighty-nine, at one time Bay City Health officer, died July 15, 1957. During Dr. Moore's fifteen-year tenure in office, he fought on two separate occasions to save the city-operated General Hospital from being closed by city commissions. In 1931, he was instrumental in tracing a typhoid carrier responsible for several deaths in that year. In the same year, he promoted a smallpox vaccination program in which 11,000 Bay City residents received vaccinations. In other accomplishments, he played a part in establishing the first controls of the city over its milk supply, in forcing retail food dealers to cover foods in stores, in revising and improving plumbing ordinances and the tearing down of old houses that menaced public health.

Dr. Moore was born in Norwich, Ontario, and was graduated from Marquette University School of Medicine in 1898. He had maintained a private practice at his residence since retiring as health officer in 1940.

DOCTOR

we need your opinion

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PLEASE RETURN THIS PAGE TO
P. O. Box 539, Lansing 3, Michigan

The Journal of the Michigan State Medical Society

Legal Opinion

Dear Mr. Burns:

You recently referred to me a communication which states that at a recent meeting of physicians of a certain area the medical profession was publicly indicted for "refusal to draw blood alcohols on suspected drunken drivers who are brought to the hospital emergency room." The letter further states that the doctors of the area would be happy to co-operate with the police but feel that they are not "legally allowed to draw blood from anyone without his written permission which is given in a state of complete sobriety."

Although I do not believe that the applicable legal rule is quite as comprehensive as there stated, I agree completely that the medical profession should not be indicted for refusal to draw blood alcohols indiscriminately.

I know of no court decisions directly in point, but I think that under well-recognized general principles a doctor has no right to draw a blood sample without the consent of the patient. To do so, in my opinion, might constitute an assault and would certainly be an invasion of the person. I believe that the letter may overstate the case slightly by indicating that the permission must be "written" and that it must be given in a state of "complete" sobriety.

I doubt that permission would necessarily have to be in writing, although certainly this is advisable as a matter of protection to the doctor. I doubt also that "complete sobriety" would be necessary to give valid consent. I think the true test of ability to give consent would be that the subject be capable of understanding the situation and be able to give a conscious and rational consent or refusal to the test. This would necessarily have to be determined by the physician from observation and by questioning the subject. When I question the use of the words "complete sobriety," I have in mind that many authorities will adopt the view that even minute amounts of alcohol will cause an individual to be less than completely sober. I think the true test should be whether the subject appears, under ordinary observation, to be capable of giving a voluntary and rational consent with understanding of what he is doing.

Unless the physician is able to obtain such consent, I am of the opinion that the drawing of a blood sample would be an unauthorized and unwarranted act. Certainly, in my opinion, the public indictment of the medical profession of the area based on refusals to draw blood samples indiscriminately on the request of the police or other lay agencies is wholly unfair and unwarranted.

Very truly yours,
LESTER P. DODD
Legal Counsel

Lansing, Michigan
August 12, 1957

Radical operation is indicated for localized ampullary lesions and for early carcinoma of the head of the pancreas.

* * *

The task of early diagnosis in gastric carcinoma is the concern of the historian and symptomatologist.

. . . . . NEWS MEDICAL

MICHIGAN AUTHORS

Vito DeFilippis, M.D., and **Irving I. Young, M.D.,** Detroit, are the authors of an article entitled "Evaluation of Adrenocortical Function with Intramuscular Injection of ACTH Gel," published in the *New England Journal of Medicine,* July 4, 1957.

Laurence S. Fallis, M.D., Detroit, is the author of an article entitled "The Billroth I Gastroectomy," published in *Surgery, Gynecology and Obstetrics,* July, 1957.

Robert L. Cowen, M.D., Detroit, is the author of an article entitled "Tumor of the Tunica Vaginalis Testis: Case Report of Neurilemmoma," published in the *Journal of Urology,* January, 1957.

Hun Jae Lee, M.D., Ann Arbor, is the author of an article entitled "Metastatic Carcinoma in the Brain," published in the *University of Michigan Medical Bulletion,* June, 1957.

Arthur L. Norins, M.D., Chicago, formerly of Ann Arbor, is the author of an article entitled "Osteoprosis," published in the *University of Michigan Medical Bulletin,* June, 1957.

Donald G. Marquis, E. Lowell Kelly, James G. Miller, Ralph W. Gerard, and **Anatole Rapoport,** Ann Arbor, are the authors of an article entitled "Experimental Studies of Behavioral Effects of Meprobamate on Normal Subjects," published in *Annals of the New York Academy of Sciences,* May 9, 1957.

James H. Wible, M.D., Lyle F. Jacobson, M.D., Prescott Jordan, Jr., M.D., and **Charles G. Johnston, M.D.,** Detroit, are the authors of an article entitled "The Correction of Aortic Insufficiency with a Spring Valve Prosthesis," published in AMA *Archives of Surgery,* June, 1957.

D. Emerick Szilagyi, M.D., John G. Whitcomb, M.D., and **Claibourne P. Shonnard, M.D.,** Detroit, are the authors of an article entitled "Replacement of Long and Narrow Arterial Segments," published in AMA *Archives of Surgery,* June, 1957.

T. Frederick Johnson, M.D., Detroit, is the author of an article entitled "Blood Changes Following Estrogen Administration," published in *Medical Science,* March 25, 1957.

J. DeWitt, Fox, M.D., Detroit, is the author of an article entitled "Narcotic Addiction Among Physicians," published in THE JOURNAL of the Michigan State Medical Society, and condensed in *Current Medical Digest,* June, 1957.

Charles T. Disney, M.D., Detroit, is the author of an article entitled "An Approach to Radiation Health Problems in Industry," presented at the Nineteenth Annual General Motors Medical Conference in St. Louis, April, 1957, and published in Industrial Medicine and Surgery, July 1957.

* * *

Hurricane Audrey.—On June 27, 1957, Hurricane Audrey blew through several parishes of Louisiana and destroyed over 500 lives. Two villages were practically wiped out. Three doctors lost their homes, offices, furniture, equipment, and one three children. Red Cross reports that the doctors of the area worked heroically and continuously for days, with a well-executed relief program. The Louisiana State Medical Society has established a relief fund with letters to all their members to replace the lost homes, offices and equipment so these young men under thirty-seven may continue their practice. Funds are being accepted from other states than Louisiana, and should be sent to Cameron Parish Medical Relief Fund, c/o Louisiana State Medical Society, Room 105, 1530 Tulane Ave., New Orleans, La.

* * *

The Michigan Association for Retarded Children held its Annual Conference on September 5, 6 and 7 at Central Michigan College at Mt. Pleasant. The theme of the conference was "Co-operative Planning to Meet Needs of Retarded Children." Michigan doctors participating in the program are William Kelly, M.D., Lansing; Norman Westlund, M.D., Saginaw; William L. Harrigan, M.D., Mt. Pleasant; Paul H. Jordan, M.D., Flint; Robert W. Talley, M.D., Kalamazoo; James L. Wilson, M.D., Ann Arbor; and Vernon Steham, M.D., Lansing.

* * *

World Medical Association.—The House of Delegates of the American Medical Association urged the members to join the American Committee of the World Medical Association and become active in its affairs. The twelfth annual session of the WMA will be held in Copenhagen, August 15-20, 1958. Anyone interested in attending should begin making arrangements, as travel may be crowded at that time.

The chairman for Michigan on individual memberships is William A. Hyland, M.D., Grand Rapids.

* * *

Medical Costs Under Public Assistance.—The Bureau of Public Assistance reports that incomplete statistics indicate that hospital care is the most expensive item involved in the medical care of individuals supported by federal-state public assistance programs. Involved are four categories: the needy aged, blind, dependent children and permanently and totally disabled. In addition

(Continued on Page 1178)

(Continued from Page 1176)

to helping states pay for these people's support, the U. S. also sets aside additional money for their medical bills, money which must be matched in part by the states. The bureau's survey, for July-December, 1956, includes data from 20 states. Hospital care accounted for 37.9 per cent of the medical costs, nursing homes and home care maintenance for 29.5 per cent, drugs and supplies for 13.8 per cent, physicians' services for 13 per cent and other services for 7.9 per cent. The bureau now is attempting to obtain more complete information from a larger number of states on the cost breakdown in the various items of medical care under PA.

* * *

A Mead Johnson Award for Graduate Training in General Practice—a $1,000 grant to assist in residency training of pysicians—was received by Dr. Richard A. Ferrington (third from left in picture) at a meeting of the Midland County Medical Society recently in Midland. Dr. Ferrington, a graduate of the University of Michigan Medical School, had just completed his internship at the Midland Hospital and planned, with help of the Mead Johnson Award, to enter residency training this summer at the University of Michigan Hospital, Ann Arbor. Shown presenting the award to Dr. Ferrington is Dr. E. Clarkson Long, secretary of the Michigan Branch of the American Academy of General Practice. At far left is Bernard E. Lorimer, administrator of the Midland Hospital, and at right is Charles Coffman, District Sales Manager for Mead Johnson & Company, sponsor of the General Practice Awards. Ten such scholarships were granted this spring by the American Academy of General Practice.

* * *

The Atomic Energy Commission announces the award of sixty-seven Life Science Research contracts in the field of atomic energy; fifteen of the contracts are new allotments. Michigan benefits as follows: University of Michigan, L. A. Bernstein, investigator, "Effects of Radiation on the Intermediary Metabolism of Mammalian Skin," $9,000; Wayne State University, J. E. Lofstrom, investigator, "Studies on the Effects of Maternally Administered Phosphorus-32 on Foetal and Postnatal Development of the Rat," $10,000; Michigan State University,

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J. L. Fairley, investigator, "The Role of Various Aliphatic Acids in Pyrimidine Biosynthesis," $5,140; Wayne State University, "Summer Institute of Radiobiology for High School Science Teachers," A. J. Forvald, investigator, $34,782. This is a new project.

* * *

The revised doctor draft bill has become Public Law 85-62; it was signed by President Eisenhower, June 27, four days before the expiration of the old doctor draft law. Under the latter, some 10,000 physicians were called up for two or more years of service, starting back at the time of the Korean war. The new law provides for the selective call-up of physicians and dentists to age thirty-five, if they were deferred from the regular draft at any time after June, 1951, in order to complete their professional training. The law is effective for two years, expiring at the same time as the regular draft. Defense Department estimates that the 2,200 physicians required by the services this fiscal year will come from volunteers.

* * *

Medical and scientific meetings scheduled for Washington, D. C., the balance of this year are: American Roentgen Ray Society, October 1-4, anticipated registration 2,000; Fifth Annual Antibiotics Symposium, October 2-4, anticipated registration 700; D. C. Medical Society Scientific Assembly, October 14-16, anticipated registration 3,500; Association of Military Surgeons, October 27-30, anticipated registration 1,500; Medical Society of Virginia, October 27-30, anticipated registration 200; Pan-American Congress of Pharmacy and Biochemistry, November 3-8, anticipated registration 1,000; Maryland-District of Columbia-Delaware Hospital Association, November 6-8, anticipated registration 2,000; Congress of Neurological Surgeons, November 7-9, anticipated registration 300.

* * *

Medicare Contracts.—All 56 of the government's Medicare contracts expired June 30, but every one has been renewed, without a single exception. New contracts are for periods of seven to seventeen months, arranged in escalator fashion so that there will be no more than six termination in any one month hereafter. Lieut. Col. Ralph Richards, who had responsibility for contract renewals under general supervision of Maj. Gen. Paul I. Robinson, Medicare director, credited "the fine spirit" of AMA, state medical societies, and other parties directly involved for the expeditious handling of negotiations. Shortest term agreements on medical care payments are those with Florida, New Hampshire, North Dakota, Puerto Rico and Wisconsin, expiring *January 31, 1958. February 28:* Arizona, California, Georgia, Mississippi, Idaho. *March 31:* Arkansas, Indiana, Michigan, New Mexico, Rhode Island *April 30:* Alaska, Delaware, Iowa, Minnesota, Nevada, Texas. *May 31:* Alabama, Connecticut, South Dakota, Vermont. *June 30:* Blue Cross, Mutual of Omaha, Maine, New Jersey, Ohio, Oklahoma. *July 31:* District of Columbia, Illinois, Kansas, Kentucky,

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New York. *August 31:* Hawaii, Louisiana, Maryland, Massachusetts, Montana. *September 30:* Missouri, Kansas City and St. Louis (separate contracts), Nebraska, North Carolina, Washington. *October 31:* Colorado, Oregon, Pennsylvania, South Carolina. *November 30:* Tennessee, Utah, West Virginia, Wyoming. NOTE: Blue Cross and Mutual of Omaha serve as fiscal agents for hospitalization of military dependents in civilian institutions.

* * *

Polio Grants.—The University of Michigan Hospital in Ann Arbor has been awarded a grant of $111,230 from the National Foundation for Infantile Paralysis for a poliomyelitis respiratory and rehabilitation center. The grant is one of sixty-seven grants and appropriations, totaling $4,527,064, made on recommendations of advisory committees composed of leading medical educators and others in the health field. Besides supporting polio respiratory and rehabilitation centers, the awards will support research to solve problems of polio and other viruses, research into treatment of polio after-effects and a professional education program aimed at relieving shortages of workers in health fields and raising the quality of care for polio and other patients.

* * *

Nutrition in Pregnancy will be the subject of the 1957 symposium of the Council on Foods and Nutrition of the American Medical Association to be held October 11 at the University of Missouri Medical Center, Columbia, Missouri.

This meeting will provide an excellent opportunity for the physician and members of the allied professions to acquaint themselves with current findings in nutrition and the practical application of these findings to the management of obstretrical patients.

A copy of the program is available on request.

* * *

An all-day symposium on "Recent Developments in Diabetes Mellitus" (pathology, diagnosis and therapy) will be sponsored by the Chicago Diabetes Association on November 20, 1957, at the Drake Hotel, Chicago. Registration is scheduled for 8:45 A.M. and lectures will begin at 9:00. Physicians registering for the course will be charged an enrollment fee of $25.00, with the exception of members of the Chicago Diabetes Association and the American Diabetes Association, who may enroll without charge.

Members of the Academy of General Practice who attend the conference may claim hour-for-hour Category II credit.

Henry T. Ricketts, M.D., Professor of Medicine, University of Chicago Clinics, will be moderator.

* * *

The Legislature of Alabama, at its last session, constituted the Medical Association of Alabama as the State Board of Health. The next session of the Association at Montgomery will be the first under the new law, and will consist of measures to provide better days for the people of Alabama. The successful working of the plan can be very promising. Other states might follow this

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lead. In Michigan, the State Medical Society first constituted itself as the State Board of Health, and soon engineered the establishment of our separate board.

* * *

J. Irvin Nichols, head of the Kentucky Tuberculosis Association for six years, has been appointed executive secretary of the Michigan Tuberculosis Association. On September 1, he succeeded Theodore J. Werle, who has been appointed executive secretary emeritus. Werle, who is completing forty-seven years of work in the voluntary tuberculosis movement, joined the Michigan Tuberculosis Association in 1921 and became executive secretary the following year.

* * *

The American Medical Writers' Association will hold its fourteenth annual meeting, held at the Sheraton-Jefferson Hotel, St. Louis, September 27-28, under the presidency of Dean F. Smiley, B.A., M.D., Evanston, Illinois, Secretary, American Association of Medical Colleges. Eighteen medical writers and authors will address this—"The Americas' Only Association Exclusively Devoted to Improvement in the Communications of Medicine and Allied Sciences." The speaker list for September 27 includes J. R. Gray, M.D., of Parke, Davis, Detroit. On September 28, the program will be a workshop on Medical Writing by six well-known persons.

All members of the American Medical Writers' Association and other collegiate graduates are cordially invited and urged to attend this meeting. There is no charge for the meeting September 27, but there is a registration fee of $5.00 for non members of the Association who attend the workshop on September 28. The twenty-second annual meeting of the Mississippi Valley Medical Society—"The Midwest's Greatest Intensive Post-Graduate Medical Assembly," will also meet at the Sheraton-Jefferson Hotel, September 25, 26, 27. Further details of both meetings may be obtained from Harold Swanberg, M.D., Secretary, W.C.U. Bldg., Quincy, Illinois.

* * *

Michigan doctors certified by the American Board of Obstetrics and Gynecology on May 25, 1957, are: Richard C. Ashcom, 110 W. Sugnet St., Midland; Everette Gustafson, 236 Riker Bldg., Pontiac; John M. Nehra, 18408 Mack Ave., Grosse Pointe 36; George S. Sayre, 523 W. Cross, Ypsilanti; Robert L. Segula, 518 Riker Bldg., Pontiac; John J. Turner, 25447 Plymouth Rd., Detroit 39; Corwin G. Van Der Veer, 68 Ransom N.E., Grand Rapids.

* * *

M. K. Newman, M.D., Detroit, presented a paper entitled "Progressive Muscular Dystrophy-Clinical Aspects" at the meeting of the Michigan State Society of Muscular Dystrophy, at Morton House, Grand Rapids, on July 13, 1957.

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Donald G. Marquis, M.D., Ann Arbor, presented a paper at a Panel on Tranquilizing Drugs, at the Hotel Sherman, Chicago, on May 20, 1957. The title of the paper was "The Effects of Tranquilizing Drugs on Normal Persons."

* * *

A. H. WHITTAKER, M.D.

Alfred H. Whittaker, M.D., of Detroit, was appointed a member of the Mackinac Island State Park Commission by Governor G. Mennen Williams on July 22. Doctor Whittaker attended his first Park Commission meeting on August 12, and stressed the need for preserving the historical character of Market Street and the downtown area of Mackinac Island.

Congratulations, Commissioner Whittaker!

* * *

MEDICAL TELEVISION SHOWS
Produced by Michigan Health Council

WJBK-TV, Detroit

June 2—"To Save a Life" (Film).
June 9—"Secrets of the Heart" (Film).
June 16—"Cerebral Palsy"—Guests: Mrs. Francis Shilling, Reuben Kurnetz, M.D., Mrs. Maryann Aman, George V. Pendy, M.D., Miss Mary Cook, all of Detroit.
June 23—"Preface to a Life" (Film).
June 30—"Water Safety" (Film—"Learning How to Swim").
July 7—"Public Opinion Survey"—Guests: L. Fernald Foster, M.D., and Mrs. Ruth Van Damme, both of Detroit. Also J. K. Altland, M.D., Hugh W. Brenneman and Kay Asby, all of Lansing.
July 14—"Health Careers" (Films—"Medical Associates" and "Health Careers").
July 21—"Mental Health" (Film—"We, the Mentally Ill").
July 28—"Guard Your Heart" (Film).

WKAR-TV, East Lansing

June 6—"Search for T.B."—Guests: George N. Phillips, M.D., of Jackson; John Isbister, M.D., Theodore J. Werle, Miss Margaret Farro, all of Lansing.

* * *

Doctors of Medicine have given $500 million in the last ten years toward expanding and improving community hospitals—according to a survey among members of the American Association of Fund-raising Counsel and other professional fund-raisers. The study shows that M.D.'s contribute nearly 20 per cent of the total amount raised in most hospital campaigns.

* * *

We can no longer say that the development of home care programs is a future charge on health departments. The time is now.—LEONARD A. SCHEELE, M.D., Surgeon General, PHS, *Public Health Reports,* Published January, 1956.

* * *

The Southern Medical Association broke ground for its new office building in Birmingham, Alabama (Highland Avenue and Niazuma Street), on August 4, 1957.

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New Safety Automobile.—In *The Massachusetts Physician* for June-July, 1957, there is an article and a picture of the Liberty-Cornell Safety Car. This is a new safety automobile, which was designed to give both driver and passenger maximum protection against collision injuries. It is the result of a joint study undertaken by the Cornell Aeronautical Laboratory and the Liberty Mutual Insurance Company. The car possesses (1) rounding bumpers to produce a glancing blow rather than a direct one, (2) side bumpers to reduce shock of impact and property damage, (3) energy absorbing material between the bumper face and the frame, (4) recessed headlights to avoid protuberances at the front end.

Even more daring are the interior changes: (1) the driver is placed in the center to obtain maximum visibility and better control of the car, (2) steering wheel is replaced by a lever-type, power-steering system. Under crash conditions, the driver is kept in position by a U-shaped webbing supported between two side arms, (3) conventional seats are replaced by bucket seats.

Other safety features of this car are: augmented roof padding forward of the seats; roll over bars to safeguard against body crushing; and special doors, double the width of conventional doors, which are hinged to fold together and swing outward, and which provide positive locking in case of a crash.

At its Boston meeting in December, 1955, the American Medical Association urged President Eisenhower to request legislation "authorizing the appointment of a national body to approve and regulate safety standards of automobile construction." Such legislation was introduced on February 20, 1957, by Sen. Lyndon Johnson, of Texas, proposing the establishment within the Department of Health, Education and Welfare of a separate division to co-operate with other public and private agencies to reduce traffic accidents.

This proposal was also cited by John D. Rogers, M.D., of Michigan, when he testified before the House Interstate and Foreign Commerce Committee's special subcommittee on traffic safety, in March, 1957. He recommended that either manufacturers get together voluntarily to place proven safety features on all cars, or Congress authorize a national body to approve and regulate safety standards of automobile construction.

* * *

A University of Michigan senior medical student was the recipient of a $500 scholarship for research and clinical training in the field of allergic diseases. The student was Jose N. Correa of Puerto Rico, and the grant was made by the American Foundation for Allergic Diseases.

Correa will work under John M. Sheldon, M.D., concentrating on the possibility of finding fractions

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of allergen extract which have relatively great ability to neutralize skin-sensitizing antibodies in comparison with their ability to elicit skin reactions.

* * *

The Interstate Postgraduate Medical Assembly will be held at the Palmer House, Chicago, September 30-October 3, 1957. For program, write J. Mather Pfeiffenberger, M.D., President, Box 1109, Madison 1, Wisconsin.

* * *

A course in occupational skin problems will be presented by the University of Cincinnati Institute of Industrial Health at the Kettering Laboratory, Cincinnati, Ohio, October 28-November 1, 1957. For program, write the Secretary, Kettering Laboratory, Eden and Bethesda Avenues, Cincinnati 18, Ohio.

* * *

The fourth annual meeting of the Academy of Psychosomatic Medicine will be held October 17-19 at the Morrison Hotel, Chicago, and will be devoted to "Psychosomatic Aspects of Obstetrics, Gynecology, Endocrinology and Diseases of Metabolism." For program and information, write William S. Kroger, M.D., Secretary, 104 South Michigan Avenue, Chicago 3, Illinois.

* * *

The American College of Chest Physicians announces a postgraduate course on diseases of the chest at Hotel Knickerbocker, Chicago, October 21-26. The same course will be repeated at the Park-Sheraton Hotel, New York City, November 11-15 and at the Ambassador Hotel, Los Angeles, December 9-13. Tuition for the course is $75. For information and application blank, write the Executive Director of the College, 112 E. Chestnut Street, Chicago 11, Illinois.

* * *

Frederick A. Coller, M.D., Ann Arbor, retiring Chairman of the University of Michigan Medical School's Department of Surgery and Grover C. Penberthy, M.D., of Detroit, Clinical Professor of Surgery at Wayne State University, were honored at the 1957 annual Coller-Penberthy Medical Conference in Traverse City, July 25-26, a meeting originated by E. L. Thirlby, M.D., Traverse City, in 1922, which attracted a record attendance of 140 physicians this year. Dr. Alexander G. Ruthven, former University of Michigan President, spoke at the dinner-meeting on "Education." Also on the evening program was Dr. Gordon H. Scott, Dean of Wayne State University College of Medicine.

Doctor Coller stepped down as Chairman of the U. of M. Department of Surgery on July 1, after having held the position since appointment in 1930. Doctor Coller will continue to practice surgery and conduct research without "the intolerable administrative load," as he describes the directing affairs of University Hospital's most populous department. He will also continue on the medical faculty as consultant and teacher, giving a special course in the history of

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medicine which he originated many years ago. He has been with the University of Michigan thirty-seven years.

Dr. Coller will be honored by the Michigan State Medical Society at a testimonial luncheon during the Michigan Clinical Institute in Detroit, March 19, 1958.

* * *

The Michigan Chapter, American College of Surgeons, early in 1957 established a fund to assist residents in surgical training who find themselves in financial difficulties.

J. A. Witter, M.D., Detroit, Secretary of the Michigan Chapter, states that applicants are carefully screened and the money is loaned free of interest with the understanding that it will be repaid to the Fund as soon as the recipient is established in practice. In the short space of a few months, three loans have been made. This is a self-perpetuating or revolving fund. For further information, write Joseph A. Witter, M.D., 344 Glendale Avenue, Detroit 3, Michigan.

* * *

To reduce the cancer mortality rate, a nation-wide program emphasizing an annual cytologic test for uterine cancer for all women is urged by Charles S. Cameron, M.D., former Medical Director of the American Cancer Society.

"The number of deaths from uterine cervical cancer would be cut by as much as 90 per cent," Doctor Cameron states in a new 25-cent pamphlet called Cell Examination—New Hope in Cancer, "if every woman in the country had this examination every year. This would mean an annual saving of 16,000 lives."

Cell Examination is the 252nd pamphlet in a series published by the Public Affairs Committee at 22 E. 38 Street, New York 16, N. Y.

* * *

The World Congress of Gastroenterology will be held in Washington, D. C., May 25-31, 1958, according to release received from Secretary-General H. M. Pollard, M.D., of Ann Arbor.

The official languages of the Congress will be English, French, and Spanish, rendered in simultaneous translations at the Sheraton-Park Hotel. The World Congress will hold its scientific meetings Sunday through Thursday, to be followed by the 59th Annual Scientific Session of the American Gastroenterological Association (Friday and Saturday).

Objective of the Congress is to bring together scientists from all parts of the globe who are actively contributing new knowledge and experience in the fundamental sciences or clinical behavior patterns related to disorders of the alimentary tract.

For program and complete information, write Secretary-General Pollard, University Hospital, Ann Arbor.

* * *

"Doctor—Do You Need a Medical Secretary?" That was the title of a leaflet inserted with the latest *Genesee County Medical Society Bulletin.* The flyer invited attention to a course to meet the shortage of medical

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secretaries which exists in Flint today, offered by the Flint Junior College. The lectures have the endorsement of the Genesee County Medical Society and the Genesee Medical Assistants Society. Incidentally, the slogan of the energetic Flint Junior College is "A Partner in Education."

* * *

George F. Lull, M.D., Chicago, who has served eleven years as Secretary-General Manager of the American Medical Association, has been elevated to the newly created position of Assistant to the President of the AMA. He will continue serving as Secretary, which is an elective office.

F. J. L. Blasingame, M.D., Harton, Texas, appointed by the AMA Board of Trustees to the position of General Manager, will take over his new duties January 1, 1958. Dr. Blasingame, fifty, has been active in medical affairs for many years, both at the state and national level. He served as President of the Texas Medical Association in 1955; has been a member of the AMA House of Delegates since 1949. He has maintained a teaching connection with his Alma Mater (University of Texas) since his graduation from medical school in 1928. He and his family of five children, three daughters and two sons, will move to Chicago shortly after the first of the year.

* * *

MSMS President Arch Walls, M.D., was guest of honor at the Annual Genesee County Cancer Day Program, April 17.

* * *

M.D. LOCATIONS

Through August 1, 1957

Placed by Michigan Health Council	*Opened Practice*
Donald Schimnoski, M.D.	Three Rivers
Henry N. Smit, M.D.	Hamilton
G. B. Goodard, M.D.	Otsego
Robert A. Schmeider, M.D.	Dearborn
Andrew J. Hopkins, M.D.	Dearborn
Van O. Keeler, M.D.	Otsego
Assisted by Michigan Health Council	
Walter Poznanski, M.D.	Birmingham
Jacob J. Miller, M.D.	Detroit

MICHIGAN POSTGRADUATE PROGRAM IN MEDICINE

The Michigan State Medical Society, in co-operation with the University of Michigan Medical School, Wayne State University College of Medicine, and the Michigan Department of Health announces the extramural postgraduate program for the fall, 1957.

EXTRAMURAL COURSES

Alpena	November 7
Battle Creek	October 1
Bay City	November 6
Flint	October 3
Jackson	October 15
Lansing	October 29
Muskegon	October 18
Port Huron	October 1
Traverse City	November 7
Upper Peninsula:	
Escanaba	November 5
Menominee	November 6
Iron Mountain	November 7
Sault Ste. Marie	November 8
Marquette	November 5
Houghton	November 6
Ironwood	November 7

INTRAMURAL COURSES

Clinical Internal Medicine (Thursdays)
University Hospital
Ann Arbor, Michigan
October3-March 13

Clinical Exercises for Practitioners (Wednesdays)
University Hospital
Ann Arbor, Michigan
October 9-March 12

THE DOCTOR'S LIBRARY

Acknowledgments of all books received will be made in this column, and this will be deemed by us as full compensation to those sending them. A selection will be made for review, as expedient.

BOOKS RECEIVED

HEREDO-RETINOPATHIA CONGENITALIS. Monohybrida Recessiva Autosomalis. A Genetical-statistical Study. By Carl Henry Alstrom, Laboratory No. 2 for Human Genetics, the Psychiatric Clinic of the Caroline Institute, Stockholm. In clinical collaboration with Olof Olson, The State Institute for the Blind, Tomteboda, Stockholm. Lund, Sweden, 1957.

THE EFFECTS OF THE SULFONYLUREAS AND RELATED COMPOUNDS IN EXPERIMENTAL AND CLINICAL DIABETES. Annals of the New York Academy of Sciences, Volume 71, Art. 1, Pages 1-292.

CARDIOVASCULAR DISEASES, SECTION XVIII. Excerpta Medica Foundation, 111 Kalverstraat, Amsterdam, The Netherlands. New York Academy of Medicine Building, 2 East 103 Street, New York 29, N. Y. A new monthly publication aided by a grant from the National Institutes of Health of the Department of Health, Education and Welfare. The first issue of eighty-four pages contains mostly listings, with short abstracts of 303 articles on the subject, divided into twenty chapters.

The aim of this publication is to provide a regular, up-to-date and comprehensive service of abstracts of the world literature in the field of cardiovascular diseases.

SIGNS AND SYMPTOMS. Applied Pathologic Physiology and Clinical Interpretations. Edited by Cyril Mitchell MacBryde, A.B., M.D., F.A.C.P. Associate Professor of Clinical Medicine, Washington University School of Medicine; Assistant Physician, The Barnes Hospital; Director, Metabolism and Endocrine Clinics, Washington University Clinics, St. Louis, Missouri. Third Edition, with 191 illustrations and six color plates. Philadelphia and Montreal: J. B. Lippincott Company. Price $12.00.

Dr. MacBryde, in his third edition of Applied Pathologic Physiology of over 970 pages, has divided his subject into thirty-four chapters, using twenty-eight authors. The chapters are quite complete treatises involving definitions, physiology, medical significance, et cetera, quite an exhaustive study. The type is large, two columns and easily read. The illustrations are adequate and clear and each chapter is concluded with a liberal reference list. We like the book.

SCIENCE LOOKS AT SMOKING. A New Inquiry into the Effects of Smoking on Your Health. By Eric Northrup. Introduction by Dr. Harry S. N. Greene, Chairman, Department of Pathology, Yale University. New York: Coward-McCann, Inc., 1957. Price $3.00.

The question of causation of lung cancer and tobacco is assuming ever greater significance. Books, even the Department of Health and the Congress, are debating the issue, with the weight probably against tobacco. This book is on the other side. The writer of the introduction, thirty-five pages of negative argument, is a Doctor of Medicine and has analyzed the evidence. The author has added 145 pages of pure argument.

The case is interesting, and from his standpoint the author has won. He opens up many questions of what work should be done, and asks questions which others have answered, but whose answers he says are statistical only. This is another opus added to the accumulating material—is it evidence?

CHEMICAL TESTS FOR INTOXICATION

(Continued from Page 1130)

and at the same time protecting the moderate drinker, the recommendations of state and county medical societies could carry great weight in supporting law enforcing agencies in their endeavor to provide the protection we all need.

References

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4. Report to the National Safety Council. Harry Shew, Superintendent, Delaware State Police, 1957.
5. Freimuth, H. C., and Fisher, R. S.: Toxicological aspects of accident investigation. A paper read at the American Academy of Forensic Sciences meeting, February 28, 1957.
6. Report of Committee to Study Problems of Motor Vehicle Accidents. J.A.M.A., 124:1292 (April 29) 1944.
7. Donigan, Robert L.: Chemical Tests and the Law. 2nd edition. Evanston, Illinois: Northwestern University Traffic Institute, 1957.
8. Harger, R. N.; Lamb, E. B.; and Hulpieu, H. R.: Rapid chemical test for intoxication employing breath. J.A.M.A., 110:779-785 (March 12) 1938.
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11. Lester, D., and Greenberg, L. A.: Alcoholism, 1941-1951. III. The status of physiological knowledge. Quart. J. Studies on Alcohol, 13:445, 1952.
12. Smith, J. Chandler: The accuracy and reliability of breath tests for the determination of blood alcohol using the intoximeter device. Paper presented at a hearing of the House Judiciary Committee of the Michigan legislature, May 2, 1957.
13. Report of Committee on Medical Aspects of Automobile Injuries and Deaths. J.A.M.A., 163:1149-1150 (March 30) 1957.

The *Child Welfare Committee* sponsored the March, 1957 issue of THE JOURNAL MSMS; promoted education of law and medical students on the problem of adoption; considered the problem of prophylaxis for neonatal ophthalmia; technique of examining children's eyes; visual acuity testing equipment; continued screening clinics for hearing defects; worked on school health problems and standardized forms; initiated action toward poison control centers and accident prevention; and proposed a joint meeting of committee members and representatives of each county society to promote child welfare activities locally.

Classified Advertising

$2.50 per insertion of fifty words or less, with an additional five cents per word in excess of fifty.

OBSTETRICIAN-GYNECOLOGIST, Pediatrician, Ophthalmologist, Board eligible or certified, to join 14-man group in metropolitan Detroit. $14,000-$16,000. Lakeside Medical Center, 987 E. Jefferson Avenue, Detroit 7, Michigan.

INTERNIST: With special interest and fellowship training in cardiology, desires association with group in Michigan, preferably one academically inclined, concentrating on full, personal patient care. Board eligible, 31, family, veteran. Especially interested in Ann Arbor area. Reply Box 4, 606 Townsend Street, Lansing 15, Michigan.

WANTED: Associate in Internal Medicine sought by older physician with practice limited to Internal Medicine, well-equipped office and laboratorium. Fritz W. Bramigk, Ph.D., M.D., 523-527 Professional Bldg., Detroit 1, Michigan.

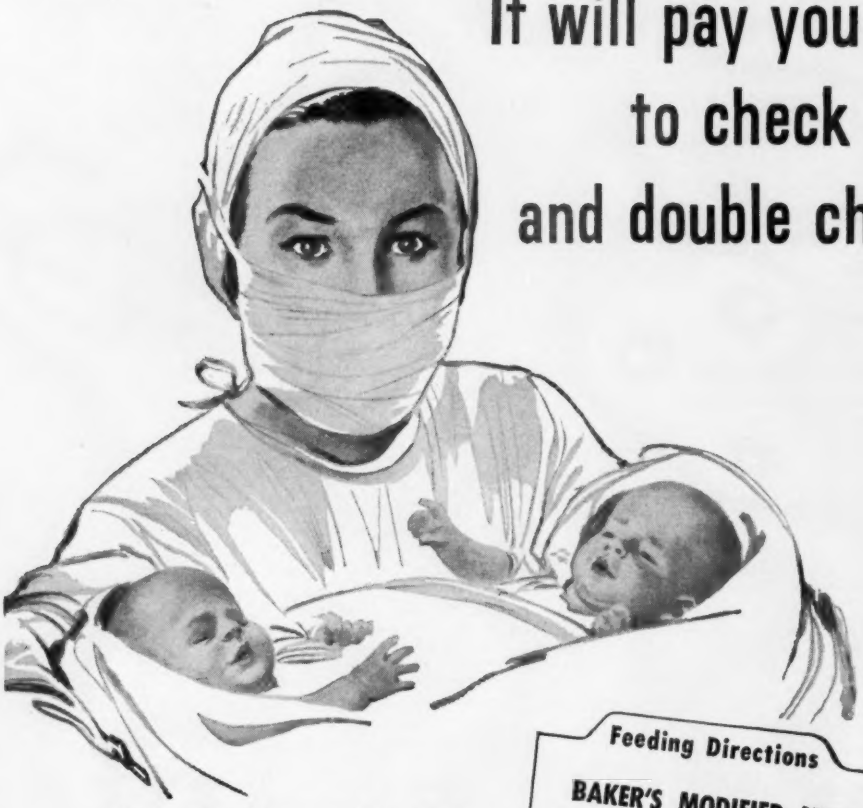
FOR SALE: Cambridge Simpli-Trol Portable Electrocardiograph. Guaranteed to be in excellent condition. Clyde H. Chase, M.D., 8868 Hendrick Drive, Brighton, Michigan. Telephone: ACademy 7-1082.

OTOLARYNGOLOGIST WANTED (Board or Board-eligible)—To join clinic group of nineteen. Attractive salary leading to partnership. Unlimited potential. Completely modern EENT Department. Lake Michigan city of 45,000. Write P.O. Box 487, Sheboygan, Wisconsin.

MEDICAL SUITE—Reception room, office, three consultation rooms, and laboratory. Established dentist, other suite, downtown East Lansing. Finest community and working location in Michigan. Ervin Realty, 322 W. Ottawa Street, Lansing 33, Michigan. Phones: IVanhoe 2-0781, EDgewood 2-1850.

Index to Advertisers

It will pay you well to check and double check



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allays anxiety and tension
without depression, drowsiness, motor incoordination

NOSTYN is a *calmative*—not a hypnotic-sedative—unrelated to any available chemopsychotherapeutic agent • no evidence of cumulation or habituation • does not increase gastric acidity or motility • unusually wide margin of safety—no significant side effects

dosage: 150-300 mg. (½ to 1 tablet) three or four times daily.

supplied: 300 mg. scored tablets, bottles of 48 and 500.

*Ferguson, J. T., and Linn, F. V. Z.: Antibiotic Med. & Clin. Therapy *3*:329, 1956.

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